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Report of Cooperative Extension Work in Agriculture and Home Economics, 1949



U. S. Department of Agriculture

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Report of Cooperative Extension Work in Agriculture and Home Economics, 1949

UNITED STATES DEPARTMENT OF AGRICULTURE,
EXTENSION SERVICE,
Washington, D. C., October 15, 1949.

HON. CHARLES F. BRANNAN,
Secretary of Agriculture.

DEAR MR. BRANNAN: I submit herewith the Annual Report of the Extension Service for the fiscal year ended June 30, 1949. Totals for activities and results are for the calendar year 1948.

Yours sincerely,

M. L. WILSON,
Director.

HIGH LIGHTS AND MAJOR TRENDS

In more than 3,000 agricultural counties throughout our Nation, as farm and home problems change, major shifts are taking place in the work of the cooperative Extension Service.

Conservation-Livestock Farming

During the late war, extension agents furnished American farmers with the technical knowledge basic to their becoming the world's greatest producers of badly needed food. But now, as concern about surplus crops grows, county extension agents are devoting a much larger percentage of their time to assisting many more farmers in the type of practice that makes for grassland and conservation-livestock farming.

County agents' reports show that in 1948 they spent 21 percent more time working with livestock problems and 40 percent more time assisting farmers with better practices in growing feed and conservation crops than in the war year 1945. Pastures are basic to a conservation-livestock economy, and the agents during the year assisted 59 percent more farmers with pasture fertilization, 125 percent more in selecting improved pasture grasses, and 44 percent more in controlling pasture weeds than in 1945.

Though good farming must protect and improve the soil, there is much more to it than that. The crops to plant, the varieties that give the best yields, how to fertilize, cultivate, fight insects, diseases, rodents, and weeds, and many other things are essential to good farm management. Helping farm people to apply the latest technical

knowledge in all these fields has long been, and continues to be, a major job of extension agents.

Changed Living, Changing Extension

Important changes in the living and buying patterns of farm people have caused a big increase in the last year or so in the number of homes given assistance with purchasing problems by extension agents. At the same time the number of families assisted in 1948 with home sewing reached an all-time high—933,540. With farm people spending more of their comparatively good income for better living, and with clothing, telephones, electric lights, and other things that make for better living more available, extension agents are helping farm families to attain the higher living standards they desire.

The number of homes helped with such problems as selecting household furnishings and equipment, buying clothing, and improving the kitchen has also increased. In many cases it has more than doubled the number assisted in 1945. Equally impressive is the trend noted in the increased number of families assisted with problems in child development and guidance. Changing home practices are also reflected in the number of families helped with problems of freezing foods, which increased from 255,060 in 1942, to 655,870 in 1948.

More Work With Youth

Congress in 1945 provided more funds for extension work. Since then, the number of club members has increased 17 percent. Boys and girls are also staying in club work longer and completing more of the projects they start. The enrollment of 1,829,250 4-H Club members in 1948 was an all-time record, and the club membership of 217 per extension agent was an 11-percent increase over that for the preceding year. This increase is due partly to the addition since 1945 of about 300 4-H Club agents, and partly to the fact that a larger number of assistant county agricultural and home demonstration agents helped with club work and that all extension county agents gave more time to it.

Work With Nonfarm People

Extension agents continued to work with nonfarm people. There was an increase during the year of more than 11 percent in the number of 4-H Club members in nonfarm homes, and 7 percent in the number of nonfarm homemakers who, through extension agents' help, adopted improved homemaking practices. While extension agents assisted more than 4,500,000 farm families to adopt improved practices, they also helped more than 2,000,000 nonfarm families. The number of nonfarm homes assisted in 1948, though less than that during the wartime victory-garden program, was twice the number in 1940 and three times the number in 1937.

Farm Programs and Public Policy

The decline in farm prices during the year, a memory of conditions after World War I, and a realization that the Congress would be

seriously considering in 1949 the future status of various price supports provided by wartime legislation, all contributed to the renewed interest of farmers in national farm policies. The Extension Service intensified its efforts to help farm people develop a better understanding of the issues involved and the courses of action that might be followed in connection with these and similar problems.

Although educational work on problems of public policy and their relation to agriculture has been a part of extension work for a long time, such problems have become more definitely recognized in recent years. They have also become more controversial and more complicated. The implications of many of these problems for farm people have assumed increasing importance. In addition to the educational work on policy matters such as those affecting prices and income, educational work has been done on health problems and facilities, social security in relation to farm people, foreign trade and international relations, and various proposals concerning the development and use of land and water resources on an area basis.

To help farm people with such public-policy problems it is necessary for the Extension Service to consider with farm people the historical developments that have led to a specific situation. It also is necessary to clarify the current problem, develop an understanding of what is involved, and analyze with them the implications of various courses of action. Extension workers themselves need to know more about how public policy is made, what influences people to act, and how to conduct discussions on controversial issues. This field of educational work presents a challenge which the Extension Service has no hesitancy in meeting insofar as it can. Farm people are turning to Extension for leadership on how to obtain and analyze the facts and to deal effectively with questions of public policy.

Marketing and Distribution

New conditions and changing public policy have brought about marked changes in attitudes toward agricultural marketing during the year. The problems of marketing are critical. Many of them are of the immediate type on which farm people look to extension agents for help.

The results of new marketing research are becoming available. The number of extension workers qualified and trained in marketing is increasing. The Extension Service in its expanding marketing work is beginning to do educational work on a broad scale with groups of people with which it has not worked intensively in the past. More people are involved in the handling of farm products than in their production. The task of developing and carrying forward this added educational program in marketing is a major one. The opportunities and responsibilities involved show signs of eventually equaling if not exceeding Extension's activities in production.

Farm and Home Planning

Rural family planning is one of the new developments in Extension's working relationships with farm people. It is indicative of the change

that is taking place in extension work and in the attitudes of farm people.

Planning for family buying needs is more than gathering the members of the family around the dining room table to make decisions about what crops or how many hogs to raise or how many cows to milk. It is planning for the welfare of the family. It is making decisions that certain steps will be taken because they will make possible improvements in the home and its surroundings. It is planning to lighten the labor requirements placed on the family and increase the efficiency of production, or provide for individual opportunities or stronger community relationships. It is planning that helps the farm family bring together many complicated factors, with each in proper perspective. Work of this type expanded materially during the year, and can be expected to increase significantly in the years immediately ahead.

World-Wide Interest in Extension Methods

A major high light of the year was the almost world-wide interest in extension methods. Official representatives from 41 countries came to this country to study these educational methods. Many of them stayed several months and worked in county extension offices. About 40 of our leading extension workers accepted invitations to visit other countries to counsel with these countries and help them start or strengthen extension programs similar to our own. This affords an opportunity to help other countries help themselves in line with the President's Point IV Program. Extension agents, through first-hand association with the foreign visitors, have also been able to help American farm people to become better acquainted with the problems and cultures of other countries in the interest of better understanding and world peace.

WHAT EXTENSION IS

Behind the information that farm families receive from the Extension Service is extensive research. It is the research of the United States Department of Agriculture, and the research of the land-grant colleges and of private institutions, organizations, and industries. To this research have been added the successful experiences of individuals.

American farmers are already among the most efficient, best informed, and best educated farm people in the world. They have demonstrated time and time again that with the resources at their command they can produce sufficient food and fiber to meet domestic demand, as well as enough for export in vast quantities. This ability to produce has enabled the Nation's industries to work at top efficiency. It has given strength to the Nation's armed services, and has put new life into other peoples throughout the world.

The rich natural resources of our country have helped to make this possible, but fertile soils alone would not be enough. We have progressed because farm people have been able to apply to their farming operations a wealth of technical knowledge. Much of this knowledge has been made available to them through the medium of the Extension Service. Only when people begin to apply the findings of science to their work and living does that information become of practical value.

From the Ground Up

Success of the cooperative extension program rests in the fact that it has its roots among the people. The major portion of all employed personnel of the Extension Service is in the county extension offices. Such offices are in operation in more than 3,000 counties of the United States. There is a county agricultural agent in each office, and a home demonstration agent in most offices. Assistant agents, 4-H Club agents, and Negro agents bring the total to approximately 9,000, or about 3 extension agents to a county.

County extension workers are carefully trained persons. A majority of them were raised on farms in the State in which they work. Nearly all of them are graduates of a technical, agricultural, or home economics school, usually the land-grant college of the State in which they are employed. Many of them have advanced degrees or have taken graduate work leading to an advanced degree. Their practical training combined with their technical and in-service training fits them well for the work they do.

County extension agents are cooperative employees of the United States Department of Agriculture, the State land-grant college, and the county government. Their salaries come from funds from all these sources, and their responsibility is to each of these agencies.

County extension work springs from a demand of the people. It reflects in its program the needs and problems that local people believe are important. Most of its success stems from the participation of people who seek information. Many of them act as leaders and demonstrators and take part in its various activities.

Once the program is agreed upon, the type of organization required to put it into action is started. The basis of the planning is that fundamental concept of extension work—helping people to help themselves. By deciding what help they want, the people are taking the first step in this direction.

The next step is to assume responsibility for becoming a cooperator, demonstrator, or voluntary group leader in one of the activities of the program. This assumption of responsibility places it where it belongs, with the people themselves.

Leaders Carry the Load

In 1948 there were 962,521 local voluntary leaders serving in various capacities. These included the 168,999 persons who guided the 81,000 4-H Clubs. They were the 417,000 women leaders of 56,151 adult homemaking clubs, who helped to bring home economics information to 3,157,030 families. They were the 322,917 men, who carried on a large number of meetings and demonstrations to help reach 4,788,023 farm families with production information. These leaders during the year held extension meetings with an aggregate attendance of 11 million.

A major job of the extension agent is to help interest the best leaders, help to train them and keep them supplied with the latest information that needs to be passed on in the community. Agents during the year held 79,000 adult-leader training meetings and 53,000

meetings to train local 4-H Club leaders. Attendance at these meetings totaled 2½ million.

First-Hand Contacts

The number of farms and homes visited annually by each extension agent tends to remain fairly constant. In 1948 the average number per worker was 415. In 1947 this number was 394.

Time required for each visit is important in limiting the number of farm and home stops made per worker. For this reason the number of visits an individual worker can make will probably remain at about its present level. It is significant, however, that the total number of farm and home visits made has shown a general upward trend as the number of workers has increased.

During the year, 3,497,776 farm and home visits were made. This was slightly fewer than for the previous year but more than 215,000 above 1941 and more than double the number of visits made in 1935.

Office calls by persons seeking information, telephone calls to the agent's office, and correspondence with individuals serve to supplement the contacts made through farm and home visits. The amount of this type of service tends to vary, the largest number of visits and calls coming under emergency situations. In times of such emergencies the number of office and telephone calls rises sharply.

The volume of office calls and telephone contacts made annually is large and requires a considerable amount of each agent's time. During the year, 8,506,710 persons visited county extension offices. The number of telephone calls received was 7,578,844.

Though extension workers realize the value and necessity of this personal type of service, they are increasingly aware that methods that reach larger numbers of people at one time bring about the adoption of more improved practices. For this reason they use general meetings, leader-training meetings, demonstrations and demonstration meetings, tours, press articles, radio broadcasts, and bulletin distribution to reach more persons.

More People at Meetings

The year's attendance at extension meetings reached an all-time high. County workers reported nearly 64,000,000 persons as having attended their meetings. This was 2,000,000 more than attended meetings in 1947 and 21,000,000 more than the wartime low of 1943.

To carry the message of Extension to a greater number of persons, extension agents published 834,735 news articles and stories in 1948. Radio has become an effective tool for extension workers, and county agricultural and home agents are using this medium of contact extensively. They broadcasted or prepared for broadcasting 105,348 talks. This was an average of 12.5 talks for each agent. In 1947 the number was 7.6 and for previous years it was less than half the 1948 total.

More than 18,726,000 publications were distributed by county extension workers in 1948. Most of these were published by the State land-grant colleges and the United States Department of Agriculture.

Demonstrations Show the Way

During the year, extension agents held 391,208 method-demonstration meetings for adults and 342,490 such meetings for 4-H members and older rural youth. Attendance at these meetings was 7,120,629 for the adults and 7,494,472 for the youths.

Agents established 204,316 result demonstrations in 1948. They held 57,194 meetings at these demonstrations, with an attendance of 2,170,443 persons. The demonstrations were highly effective in showing people the results of recommended practices for the farm and the home.

Tours are used in both the adult and youth phases of the program to call attention to the successful methods used by farm operators, homemakers, and youths. Attendance at 22,851 such tours conducted in 1948 for adults was 649,699, and 452,193 persons took 15,487 tours held for 4-H members and older youths.

Achievement days are used extensively by extension agents to stimulate interest in programs and give cooperators an opportunity to display the skills they have acquired. Such events for adults drew 1,495,782 persons to 6,820 achievement days. For youth groups, 20,765 achievement days were held with an attendance of 3,734,672 persons.

Camping is one of the activities that are growing in importance in the extension program. In 1948, 748 counties held camps for farm women. These were attended by 49,874 persons. Camps for youths, attended by 290,265 young people, were held in 2,434 counties.

Extension workers attend and take part in many meetings that they do not call. These include community meetings, local club meetings, and others of similar nature. In 1948, county extension workers attended 305,088 such meetings for adults. At these meetings they presented extension information to 16,969,647 persons. At 198,420 similar meetings for 4-H and older youth members, 10,110,764 persons were present.

During the year, county extension agents spent slightly more than 60 percent of their time in the field. In this portion of the total time spent on the job they made the farm and home visits required by the local situation, attended meetings, made arrangements for demonstrations and other events, and took care of numerous other details. This left them less than 40 percent of their time in which to receive office callers, take telephone calls, write letters, direct office procedure, plan programs, and attend to other details necessary to the operation of an effective program.

The State Office

Coordinating and administrative leadership in the cooperative Extension system is provided by State offices. These offices maintain a specialist staff made up of trained personnel in various fields, such as agricultural production, homemaking, family relationships, and the social sciences. These persons train county extension workers and help the county workers to take information about new methods to the people, at their request.

The total administrative staff for the 48 States and Alaska, Hawaii, and Puerto Rico in 1948 numbered 767. Of this number 205 persons were in home demonstration administrative posts and 234 were in charge of the boys' and girls' club program. The other 328 held the positions of State directors, assistant directors, and State and assistant State county agent leaders.

This administrative group gave leadership to both the county and State extension programs. It was concerned with the allocation and administration and distribution of the State and Federal funds appropriated for Extension. The administrative group employed personnel and worked out cooperative agreements with the county sponsoring agencies for the placement of county workers. It determined State extension programs and approved county programs.

A strong and capable State administrative and specialist staff provides unified leadership and direction to the county extension agents. It helps to establish uniform standards and goals in county programs. It makes available to county workers the technical farm and home information required to help solve the problems of farm families.

The Federal Extension Office

Just as a strong State office serves to strengthen the work of the county offices, so the Federal Extension office ties together into a national plan the work of the States. Operating with a small staff, as compared with the number of State and county workers, the Federal office had 212 persons, of whom 77 were professional, to handle its functions during the year.

Since the Extension Service is a cooperative agency between the Department and the States and counties, this small staff had the job of leading but not directing extension work. It is the general educational arm of the United States Department of Agriculture which operates through the State and county extension services.

It is responsible for entering into cooperative project agreements with the State extension services. During the year, it supervised the allotment and expenditure of more than 32 million dollars of Federal money for extension work in the States in compliance with these cooperative project agreements and the appropriating laws.

It is responsible for handling relationships among the State and Territorial extension services, individually and as a group, and the various agencies of the Department for which Extension serves as the educational outlet. It is responsible for keeping State extension workers supplied with the information they need to carry to farm people. Such information relates to research results, policy, situation, and programs of all the agencies of the Department and of the Federal Government. The Federal office also assumes leadership with the States in the development of broad extension programs, and assists the State extension services in local program development and in staff training in operations and teaching methods.

Federal specialists

The Federal Extension office maintains a staff of Federal subject-matter specialists in agricultural and home economics subjects—ani-

mal husbandry, poultry, meat technology, agronomy, forestry, soil conservation, dairying, horticulture, entomology, plant pathology, agricultural engineering, cotton ginning, and rural electrification, home management, foods and nutrition, clothing, and family relations. The general aim is to assist the States and the Department in doing a more effective educational job in the various subject-matter fields.

These specialists keep in close contact with their respective agencies or bureaus within the Department. Some of them are housed with their bureaus. They helped to coordinate bureau educational activities with those of the several States and Territories, to obtain the necessary coordination in the educational field with other departments of the Federal Government. They not only carried information from the Department to the States, but also brought back from the States to the Department suggestions for dealing with problems of the extension services or the farmers. This group of specialists visited the States and attended State, regional, or national technical or training meetings or conferences. They also served on committees.

When not in the field, the specialists of the Federal Extension office kept in touch with their counterparts in the States through correspondence, circular letters, exchange of publications, exchange of color slides, and in other ways. They carried ideas regarding successful teaching methods and techniques from one State to another. In co-operation with other divisions and agencies, they prepared materials for use in slidefilms, motion pictures, charts, exhibits, and other visual aids. They prepared bulletins and releases, took part in radio and television programs, and wrote articles for farm and home magazines. They assisted in studies of the effectiveness of extension work in their subject-matter fields and in the training of extension personnel.

They cooperated with industry in conducting broad national programs such as those in housing, clothing, and pest control.

The Federal specialists reviewed annual plans of work and annual reports submitted by 1,004 State specialists.

Field coordination

Another group in the Federal office works mostly in the supervisory field, largely on a regional basis. There are four of these workers each for 4-H Club, home demonstration, and agricultural work. Each of these workers regularly visits State directors, supervisors, and others in about 12 States, and assists them in the general development, supervision, and coordination of extension programs. They help to extend good administrative and supervisory practices from one State to another and take the lead in supervisory conferences and workshops and in other activities and events where national or regional coordination or leadership is needed.

Economics staff

When farm prices turned downward in 1948, farmers were faced with new problems in farm management and marketing. These and related problems in the fields of sociology, rural health, farm tenure, farm finances, income taxes and accounting, and a discussion of public-policy issues are the major responsibility of about 12 Federal Extension workers. They take the lead in supplying State extension serv-

ices with current information and extension-program guidance in these fields.

The time of these specialists is spent largely in the field or in preparation for field trips and in working on problems raised by workers in the States. Special materials are prepared, educational methods are explained, and assistance is given in the conduct of State programs.

The marketing staff is responsible for the administration and supervision of all State extension projects financed under the Research and Marketing Act of 1946. These projects deal with commodity marketing problems, market information, consumer education, and retailer training.

Conferences and training workshops for State workers were held in connection with farm management, farm and home planning, land tenure, marketing, health, and recreation facilities and services.

Teaching-methods research

The Division of Field Studies and Training takes the lead in helping State extension services to study scientifically the effectiveness of various extension methods. This group brings together from State and county reports data that show extension activities and results nationally. It assumes the lead in helping the States to organize in-service training programs and train the large number of persons from other countries who are studying extension work in the United States.

The Federal staff assists the States in training someone to take the lead in studies looking toward improving extension methods in each State. Regional studies during the year were under way, in cooperation with the States, as follows: In the Central States on the use of radio, in the Western States on why 4-H Club members drop club work; and in the Southern States on local leaders.

Other regional studies included: Community development in New York State and Maine, rural reading habits in Tennessee, and effectiveness of extension programs in Washington and Louisiana; studies of extension publications in Alabama, Florida, Georgia, Louisiana, Michigan, Montana, South Carolina, Texas, and Utah; extension organization and other studies in a number of other States.

Members of the Federal Extension staff helped to hold summer schools in New York, Wisconsin, Colorado, and Arkansas, to give advanced training to extension workers. Staff members also taught at other summer schools attended by extension workers in 1948.

Extension information

Reports from county extension agents show that agents are making increasing use of teaching methods that have proved effective in reaching more people. Attendance of over 60 million people at extension meetings was a record. More use was made of simple visual teaching aids. The agents gave twice as many educational radio talks as they did 2 years earlier. They made more use of news stories, and distributed over 18 million publications.

Disseminating useful information is a job of all Federal Extension workers. The information specialists in the Federal office take the lead in developing and improving information programs, in training State and county workers in use of news, radio, publications, visual

aids, and other mass educational outlets, and in supplying educational material and teaching aids from the Department for local extension use.

This group helped State and county workers to make better use of the many types of information mediums that are becoming of increasing importance in their work. Seven States were helped with radio schools. In 19 of these schools, 380 extension workers were helped to make better use of the radio facilities in their communities.

State extension services spend about 2 million dollars a year on publications. The Federal staff helps the States to make these publications simpler, more readable, and more appealing. It also assists the States to cooperate in putting out publications on a regional basis.

Extension agents were kept better informed and effective ideas were exchanged. Extension cooperators in other agencies were helped to understand various programs through the Extension Service Review, monthly extension house organ, and through other means.

Business administration

A major job in the Federal office is the allotment and accounting of funds, the handling of personnel actions, and the maintenance of required personnel records for the 11,810 cooperative extension workers as well as for the small Federal staff.

Among the increases in work with which the group has had to deal has been the bringing of 5,100 cooperative extension employees under the Federal retirement system since 1945. This action has increased substantially the amount of correspondence and accounting work.

Since 1935 the number of county and State extension employees has increased 71 percent. In the Washington office, 3 percent more employees have been added in the same period. Attempting to take on additional responsibilities without an increase in personnel puts an extremely heavy load on the division concerned and causes unavoidable delays in many of its actions.

Funds and Personnel

County agricultural agents are now located in 3,027 of the 3,107 agricultural counties. Home demonstration agents are employed in 2,485 counties. On July 1, 1949, there were 11,810 cooperative extension employees, an increase of 370 over the number employed a year earlier. More than 9,000 of these workers were located in the counties; and 1,933 were subject-matter specialists who provided the agents with the latest results of subject-matter research and aided in its application.

When the Bankhead-Flannagan Act was passed in 1945, authorizing increased funds for cooperative extension work, the Federal Government was appropriating about 19 million dollars for extension work. About 18½ million dollars came from State and local sources. During 1948-49 Federal funds increased to over 32 million dollars. State and local funds more than matched this increase. They accounted for about 35 million dollars during the year, or 52 percent of all cooperative extension funds. This increase in State and local funds reflects strong local support for cooperative extension work.

About 69 percent of all extension funds in 1948-49 was allotted to the counties. About 18 percent was allotted for specialists' help; about 8 percent for supervisors, who work with the agents usually on a district basis; and about 3 percent for administration.

Since 1945, 2,796 extension workers have been added. The largest percentage of increase has been in Negro agents, about 200 new Negro workers being added. There were nearly 800 Negro workers in 1948. Expenditures for Negro extension work during the year were more than three times as great as in 1935.

Other increases since the 1945 Bankhead-Flannagan Act include 342 home demonstration agents, 390 assistant home agents, 162 county agricultural agents, 993 assistant agricultural agents, 305 4-H Club agents, 118 supervisors, and 260 subject-matter specialists. Many of the new assistant agents were put on to spend a large percentage of their time in 4-H Club work. This has helped to increase the time devoted by all extension agents to 4-H Club work from 31 to 36 percent.

WHAT WAS ACCOMPLISHED

These county, State, and Federal extension workers joined forces to improve the status of rural families and of people in urban areas. Results of the extension program cannot be measured by 1 year's accomplishments. Most situations with which Extension deals have existed for many years. New situations are constantly arising. Changing trends in economic conditions, emergency demands, outbreaks of disease and of insect infestation, and other factors constantly cause shifts in emphasis in the extension program.

Extension's job is never finished. In youth work a new generation is constantly coming on. A fresh start must be made with each individual. On the farm and in the home the process of education does not stop. Technical advances are constantly being made. People change their habits and practices slowly. Their desires for information are closely allied to situations that develop in their operations and living. In different sections of the Nation certain practices will have been adopted generally, whereas in others a bare beginning will have been made.

Helping Families To Live Better

Family-living patterns have been changing. Since the late war, these changes have become more and more marked, and are influencing the type of extension work being carried on.

Increased expenditures for farm electrification and household furnishings, for medical care and the like, have multiplied the number of calls on home demonstration agents for help. The nonfarm people guided in intelligent buying methods and in other ways of attaining higher living standards have also taken an increased amount of these agents' time.

Situations are changing

Mechanization of farms and homes has relieved farm families of much of the heavy labor that characterized agriculture in the past. It has changed the patterns of family relationships. Increased farm in-

comes, greater participation in community activities, education in consolidated and urban schools, recreation away from the family fireside, and an opportunity to travel readily all are part of the change that is affecting rural families and developing the need for work in fields broader than those merely of production and homemaking.

Moving in this direction puts emphasis on better housing and house furnishings and on modern equipment and facilities in the home. It places a high value on education. Certainly, improved health and health facilities must be considered. Community relationships cannot be neglected, either, in work with rural families.

To attain these ideals for rural family living is not simple. Income is important to families' attainment, and far too many do not have enough income to make more than a start toward higher standards.

Progress is being made, however. The reports of county home demonstration agents offer a good index of the direction that rural living is taking.

Food

One of the basic commodities produced on the farm is food, but much of it must be processed before it can be used. Helping families to get the most nutritive value for their food dollar has had the attention of extension workers for many years. Just prior to the late war, this aid reached a peak, but declined during the war because of shortages. Now it is climbing to higher levels.

Even though farm families are buying more food, they still depend on production and preservation of home food supplies for much of their basic nutrition. Extension agents during the year helped 1½ million families in preparing and preserving the home food supply. Home and commercial locker freezing provides storage for large quantities of meat, fruits, and vegetables. Canning continues to provide preservation for foods that are seasonally abundant. Drying and other means of storing are used in many homes.

New and better methods of handling these foods in storage are constantly being developed. Many families each year have their first experience with some of these methods. Others want to change their practices. That is why 2 million families during the year adopted better homemaking practices recommended to them by the Extension Service.

Important to the nutrition of farm families is the meat they produce on their farms. About 2½ billion pounds of meat is used each year by these families.

Freezing now makes possible year-round storage of meat as well as of the other food grown on the farm. Now that one-half of the farm families have access to these lockers, more time of extension workers is spent in helping families to get the best use from commercial lockers and home-freezing cabinets. During the year, 655,870 families received this kind of assistance.

Clothing

Next to food, families find that clothing themselves is one of the biggest problems with which they are faced in planning their budgets. They must make choices between buying ready-made garments or sewing at home. They must consider remodeling, renovation, and

care of the clothes they own. And when they buy there are many decisions to make about quality, suitability, and price.

Extension work in clothing has been influenced by the trends of the past 15 years. During the 1930's, economic conditions dictated that much needed to be done toward making the old do and toward getting the most for the fewest dollars. As conditions improved, families were more interested in buying new clothes. Wartime shortages again put the emphasis on using what was available. After the war, more interest was shown in home sewing, and this interest has continued, even though better quality materials are now available.

Interest in clothing work is showing definite upward trends, and the demand for assistance soon may exceed the help available. This will be particularly true in regard to the buying of materials.

As a measure of what may be expected in the future the number of families assisted during the year may be a guide. More than 305,000 families got help with buying clothing for the family. Assistance in selection of clothing and textiles was given through extension programs to 764,000 families. More than 575,000 families received help that enabled them to do a better job of renovating and remodeling clothing; and the number helped with home sewing was more than 933,000.

Health

Extension health education has stressed the importance of providing information on sound health practices, including the prevention, early diagnosis, and care of common and uncommon diseases. Nearly a third of the Nation's 4-H members received information on health as a regular part of their program during the year. Of the 625,868 members studying health, 240,993 had physical health examinations. Most of these examinations were handled on a clinical basis, which brought about cooperation among physicians, hospitals, and health agencies, all of which worked with Extension.

Extension workers in 1948 helped people in 558 counties to organize 2,981 nutrition or health clinics. Information that would help people to prevent colds and other common ills was given to 356,314 persons. Information on preventive measures to improve health was given to 468,194 persons, and 194,885 received instruction on first aid and home nursing. Instructions on removing fire and accident hazards were given to 624,377 families. In many States the home demonstration clubs especially have helped to plan for mass chest X-rays and check-ups at cancer-detection clinics after educational programs on tuberculosis and cancer control.

Notable results are being obtained in the States where emphasis is being put on organized community effort to raise health standards. Local health councils usually have grown out of county agricultural planning committees. In Ohio there are 50 such rural health councils; in Indiana, 20; in Nebraska, 25. Some other States have selected one or two counties for demonstration purposes. A report entitled "You and Your Neighbor," made by the rural health council of Columbiana County, Ohio, shows how these health councils work. Over 300 rural people planned and conducted a survey of rural health problems. Nearly 17,000, or almost 80 percent of the rural population, were

reached by the survey. When the findings were reported, all organizations planned health programs to improve the situation. Among the first results were adoption of a sanitary code, employment of a public-health nurse, and provision by three communities of office space and equipment to attract a doctor.

In several counties in different States the home demonstration clubs have taken the leadership in raising scholarship and loan funds for girls interested in nurse's training and have recruited girls for such training.

Increased emphasis has been put on agricultural programs that protect the health of both rural and urban families. The control of flies has made great progress since 1945, when DDT and other chemicals came into active use.

This expanding extension program in health education has improved rural health in these and many other ways. As its cooperation with all health organizations and agencies increases, still further progress will be made.

Electrification

Rural electrification has brought not only light to the farm but also power to lessen the work load of the farmer and the homemaker. During the year, there was an increase over 1947 of nearly 50 percent in the miles of farm lines energized. More than 500,000 new consumers were added to the lines. With 75 percent of the Nation's farms now served by transmission lines, families are asking for a lot of help in ways to use electricity.

These new users, as well as many who have had electricity for several years, are asking for help on wiring problems and purchase of equipment, and guidance in using the equipment. In 1948 more than 272,000 families were helped by the Extension Service to solve these problems.

Much of Extension's work is with local cooperatives financed by the Rural Electrification Administration and with other power suppliers. Training schools for REA employees help to set uniform standards and expand the number of families given proper guidance. Cooperative companies now have 330 specialists at work and plan to add another 300 as soon as trained personnel becomes available. During the year, 25 training schools were held for these workers.

South Carolina held 76 schools on care of electric equipment in 1948. It also set up 384 demonstrations on the use of electric equipment. In Montana, 17 electrification meetings were held in cooperation with REA cooperatives and commercial power companies. The attendance at these meetings was six times what was anticipated.

South Dakota held 30 community meetings on electric wiring in 12 counties. Attendance was 2,200. In North Dakota, county agents are receiving regular training on wiring and other problems so that they can carry on educational work in their counties.

Several electrification demonstrations were set up in Iowa. Attendance in this State at 160 rural electrification meetings was 60,938. In Virginia, electrification schools reached 9,000 persons with help in wiring, and in Nebraska, 70 preelectrification meetings, 30 of them held

in 20 counties, provided 1,654 persons with information on the use of electricity. Attendance at 11 farm and home equipment meetings held throughout the State was 7,425.

Along with electricity on farms has come an upswing in the number of families installing running-water systems and modern sanitary facilities. Extension advice was given during the past year to 51,505 families who put in running water, and to 47,184 who installed sewage systems.

Homes and home furnishings

Improvement and modernization of rural homes have long been desired but too frequently put aside because of the pressure of other demands.

The place where most families want to start in improving their homes appears to be in the kitchen. In 1948, Extension helped nearly 222,000 families modernize their kitchens. This was slightly fewer than in the previous year, but the program shows a definite upward trend over a period of 15 years.

Associated with the planning for rearranged and improved kitchens goes a long list of other activities in which families are aided. Remodeling of the entire dwelling, installation of water and heat, making more storage space available, providing sanitary facilities, selection of rugs, curtains, pictures, and lights, attractive use of flowers, arrangement of furniture, making the home attractive to teen-agers, and other changes that make work easier and provide family living satisfaction received the increased attention of extension workers.

More than 359,000 were aided in 1948 in improving home furnishings—a record high, but only a small percentage of the number that Extension must reach if the most possible aid is given.

Outside as well as inside the home, farm families are making improvements. Extension agents helped 399,438 families during the year to improve their home grounds and to rearrange farmsteads for more convenience and reduce labor requirements. In addition to work with adults, 118,413 4-H members had home beautification as one of their club projects.

The human element—the family

Helping the rural family to live and work together in a satisfying relationship is a different type of extension work from that showing people how to produce, preserve, build, or sew. One of the most important parts of this family-relationships work is that which deals with child development and training. Significantly increasing demands are being made on extension workers for help. In a 15-year period the number of families so assisted increased six times and reached a total of 291,000 in 1948.

Handling family finances

Low-income rural families spend money for 58 percent of their living. As incomes go up, as much as 80 percent of the living is dependent on cash expenditures. This is why it is important for families to budget closely, so that they may get with their money what they actually want.

With recent farm incomes at a high level and with more opportunities to spend money, the average farm family has put out more cash in the past few years. With 75 percent of the farms now using electricity, the outlay for appliances has gone up rapidly. Money spent for house furnishings and equipment in 1946 was two and three-fourths times that spent in 1936. An Illinois survey showed that families in that State had an average of more than \$2,100 invested in household equipment and furnishings.

Families also are spending more on medical care and similar services which they often could not afford in the past. Money spent on health in the 10-year period ending in 1946 showed an increase of almost 200 percent.

To guide farm families in wise use of their money is not only important but a field in which more effort should be put. The 85,000 families so assisted in 1948 are only a small proportion of those needing help. This number was supplemented, however, by 273,000 4-H members, who kept personal expense records and gained some insight into what is involved in wise money management.

Upward trends in all other parts of the home demonstration program are closely associated with an expanding home economics field force. As more home demonstration agents are placed in the Nation's counties accomplishment increases. With demands constant for help, the principal limiting factor in spreading new ideas seems to be the amount of personnel available to do the work.

Community life and recreation

The Extension Service is being called upon more and more by rural people, and by organizations as well, for help in solving local problems and working out improvements in community life. These problems relate to school reorganization, strengthening local organizations, helping churches to fit programs to the community, training of rural groups for local leadership, improving recreation, and uniting local groups on community-wide projects.

Through group action, communities in many sections of the country have been assisted in meeting local problems. In Tennessee, nearly 1,000 communities have formed single community-wide organizations and have chosen officers. These groups hold regular meetings for the entire family and undertake community-improvement projects. In 1948, extension sociologists, through the county agents in Louisiana, helped 50 communities to analyze their needs and plan improvements. These ranged from recreation to library services, better church programs, and special activities. Thibodaux, La., now has a Youth Citizenship Day, when the young people take over all local affairs. This annual event is observed after weeks of lively preparation. The idea was developed, through extension guidance, as a means for controlling juvenile delinquency. It provides something in which young people can participate and, in so doing, stimulate pride in their community.

Many Texas communities have been setting up neighborhood social centers and recreation programs, often in unused school buildings, to take the place of the social life lost through school consolidation and travel to cities. In Virginia, business firms, farm groups, and

public agencies of several communities came to the Extension Service for help in planning projects that would benefit the whole community by helping to unite the town and country people more closely. In Iowa a State workshop on community development was held which drew 300 local leaders from all parts of the State. As a result, community-improvement projects have already been started in several places. In Wisconsin the State extension sociologist called on county extension agents to help in the development of a new unified county school district plan. Helping to train officers of local organizations, developing discussion leaders, and providing discussion leaflets for 4-H Clubs and other community groups all are important parts of the community work in Ohio and several other States.

Rural people are continuing to ask Extension for more assistance in improving recreation. Today 37 States include some recreation as part of their 4-H Club and other extension work, and 22 States have one or more full-time extension recreation specialists on their staffs.

County recreation leadership training institutes were held in many States. These meetings were for the purpose of helping leaders in extension groups, churches, granges, schools, and other organizations to improve their meetings and programs through recreation. In Pennsylvania, extension group recreation activities were taught at 121 meetings. Community buildings and parks were discussed at 83 meetings, and 92 community groups were helped with program planning. In Illinois, over 10,000 leaders from 83 counties attended 150 recreation leadership-training schools, and, in Georgia, the idea of precamp clinics was started to help county extension agents and others in the conduct of their seasonal camps. In South Dakota special help, especially with music, was given to teachers for improving rural school recreation programs. And in Indiana the idea of a county recreation department with town and country working together was started.

Drama and art were especially stressed in the extension recreation programs of New York, Wisconsin, Illinois, and Colorado, and family home recreation including reading was given new emphasis in West Virginia and many other States.

Urban home demonstration work

Homemakers in nonfarming areas are becoming more and more aware that county home demonstration agents have the answers to many of their questions on nutrition, clothing, house furnishings, and other phases of homemaking, and are asking that the benefits of home demonstration work be extended to them.

Progress in cities differs greatly by States, but in 1948 at least eight States had well-defined urban home demonstration work. Content of the program in cities is very similar to work with farm homemakers, such as food for family health, clothing for children and adults, sewing-machine clinics, labor-saving equipment, and family-life study clubs.

Organization of city home demonstration work is similar to that for county home demonstration work, with advisory committees to assist the agent with plans and procedures. There are community home demonstration groups in cities as in counties, with program planning

carried on locally. Training of leaders goes on as in county work, with leaders teaching in their local group.

New York now has 14 home demonstration agents and assistants working in urban areas. In Syracuse, Buffalo, and Rochester, N. Y., home demonstration work has been going on for about 30 years. In Syracuse it has grown to the place where the urban home demonstration agent has three assistants, and in Buffalo and Rochester the urban agents have two assistants each. An interesting trend in organization in New York State is that, since the law was changed in 1946, as work develops in new urban areas it becomes a part of the county home demonstration machinery rather than being a separate organization as it was in city organizations earlier.

Youth Carries On

Increased extension personnel in the counties brought the 4-H enrollment to a new high in 1948. The number of boys and girls reached with this phase of Extension's educational work was 1,829,250, almost 70,000 members above the previous year. Since 4-H Club work started there have been more than 13,600,000 club members.

Club membership has shown a consistent increase for the last 25 years. In 1923 only 459,638 members were enrolled. That was an average of 134 members for each extension agent employed in the counties. Last year's enrollment represented 208 members for each agent. As all agents are devoting a larger percentage of their time to 4-H work, this helps to bring up the number of members enrolled per agent.

Members stay in longer

Additional encouragement from extension agents has increased the average period of enrollment since 1935 by about one-half a year. In the same period the number of members who fully completed their membership, according to the goals set up by the various States, has increased from 6 to 77 percent of all enrolled.

Along with the increased enrollment has come a steady increase in the number of trained leaders who work with young people. During the year, 168,999 men and women gave direction to 4-H Clubs. This was an average of 1 leader for each 11 members.

Enrollment of large numbers of 4-H members is not an end in itself. The things these young people are doing are more significant. During the year, club members engaged in more than 3,600,000 projects. That means that they averaged nearly 2 projects each. These projects covered a wide range of work. Some were in farm production, some were in soil, water, and wildlife conservation, and some were in clothing, foods, and house furnishings.

What 4-H members did

To cite a few examples, 132,000 club members worked with corn. They had 231,508 acres in their projects. Members who had cotton projects totaled 36,543. They worked with 65,568 acres. The 387,310 members who had fruit, gardens, and market gardens as their projects raised 108,277 acres of crops.

Soil- and water-conservation projects were put into practice on 228,661 acres by 16,584 members. Wildlife and nature study projects were conducted by 38,177 members. Home ground improvement and beautification activities were conducted by 118,413 members.

In the field of livestock production 447,336 club members raised 747,862 dairy, beef, swine, sheep, and horses in their project work. Poultry projects were conducted by 188,073 members with 8,820,522 birds.

In the fields of home economics 4-H Club work 245,605 members preserved 12,676,448 quarts of products. Food selection and preparation projects were conducted by 443,635 members who prepared 26,750,492 meals.

Clothing work by 590,278 members resulted in 2,134,114 garments being made. The 164,096 members who engaged in home-furnishings projects worked on 644,420 units, and another 103,745 members produced 281,935 articles in their home industries, arts and crafts projects.

Home-management activities claimed the attention of 91,096 club members who worked with 178,910 units, most of which resulted in more convenience and less labor in the home.

Intangible benefits

The real measure of this work is found in the basic training these young people received. They learned greater skills through their projects. They made and saved money. They got a greater appreciation of the importance of good nutrition, good housing and improved standards, and were better prepared for citizenship.

Recreational leadership in their clubs and communities was provided by 203,695 members, 223,440 of whom took part in some music-appreciation work and nearly three times as many—625,868—participated in the health activities of the 4-H program. Of this number 240,993 had health examinations to check any defects or deficiencies.

Attention to the removal of fire hazards and to accident prevention on their farms, in their homes, and in their communities was given by 495,659 members.

Recognizing that wise expenditures of money and careful budgeting of personal expenses are essential to financial security, 273,019 members kept personal-expense records during the year.

Reports on the extent of 4-H members' participation in fields allied to the conservation of natural resources show that these young people are conservation-minded. Soil and water conservation practices were studied by 161,019 members, wildlife conservation by 176,693, and forestry projects by 137,337.

Citizenship training

4-H Club members are learning that good citizenship, including the exercise of civic duties, cannot be separated from their everyday living.

The influence of this training is reflected in the growing interest of club members in international problems. This has been reflected in the 2-year-old International Farm Youth Exchange project. During the year 48 older 4-H members from this country went to European

countries in the exchange, and young people from 9 European nations came to this country.

Expenses of most of the delegates from the United States to foreign countries were defrayed in part with 4-H funds, raised by club members. The young people coming to this country were received into the homes of 4-H members and made a part of the family. They had an opportunity to observe American life, work with the family, take part in the community and social life of the area in which they were located, and observe Extension functioning on all its levels. They returned to their native lands with some idea of how democracy works in the United States and how the American system provides for the welfare of the people.

This interest in international well-being has been demonstrated in a number of other ways. Club members have been particularly active in drives to raise funds for the Cooperative for American Remittances to Europe, Inc. (CARE), and similar organizations. Thousands of clubs prepared food and clothing parcels for destitute families in other lands. Iowa 4-H Clubs raised more than \$9,400 to buy garden seeds for European families. Connecticut carried on a similar project, and New York and several other States supplied hand garden tools for families who lacked the simple implements needed to be partially self-supporting.

4-H spreads across the world

The international aspects of the desire of young people of other nations to have 4-H Clubs could be cited many times. Wherever American armed forces or other groups from the United States have gone, the spirit of 4-H has accompanied them in the person of former 4-H members. In Japan, in the Islands of the South Pacific, in western Germany and other parts of western Europe, there has been a demand for help with youth organization. Typical of the spread of this work was the organization of a club of 55 members on the Island of Saipan by a worker of the Saipan Agricultural Foundation. Previously he had spent 5 months with the Extension Service at the University of Hawaii and had become familiar with modern farming techniques and the aims of the 4-H movement.

On a firm foundation

Club work with boys and girls is firmly established in each of the 48 States and in Alaska, Hawaii, and Puerto Rico. It is reaching a high percentage of farm families. In 1948 the boys and girls enrolled in 4-H represented 1,049,772 farm families and 315,985 nonfarm families. Of the total enrollment, 318,000 were Negro boys and girls. This is equivalent to almost one Negro 4-H member for each two Negro farm operators in the United States as compared to one white member for each five white farm operators.

This higher ratio indicates that 4-H work has become an effective instrument for conducting extension work with Negro families who have not been reached so effectively by other extension programs. One field agent for the Extension Service, in reporting on Negro 4-H work said, "It may be the boy's calf at the show, but it is his Dad's pride everywhere he talks—at the filling station or at the church."

Older rural youth

Gaining emphasis in Extension's program of work is the attention being paid to young people in the upper 4-H age brackets and those who are above club age and just establishing themselves. Although this age group has not had specialized attention in many counties in the past, the swing is now toward development of strong programs that will appeal to young people between the ages of 18 and 30 years. Most of these people were 4-H members at some time during the period prior to reaching this age level.

Work with young men and women is primarily aimed at helping them, as they mature, to adjust their vocational and social interests to changing situations. The programs of most of the States conducting this type of work place emphasis on further development of the young people's skills as farm operators and homemakers.

Building communities

Through organized group action, young people are given an opportunity to make concrete contributions to the community by taking part in community projects. This includes assistance in the organization and conduct of 4-H and other youth programs. Some organizations of young men and women have been behind safety campaigns, fund-raising drives, and other community-development benefits.

Recreation and social benefits are provided in nearly all of these groups. The need for these opportunities is most often stressed by these young people when they are surveyed as to what they want most out of an organization.

Extension reached 146,790 persons of this age group in its programs during 1948. To give impetus to the program, a national conference of State extension representatives was held in February 1949. This conference explored the types of programs now being conducted, reviewed the objectives and needs of work with Federal Extension workers toward the development of this type of educational service, and set stakes for an expanded program.

Responsibility for the work

Local 4-H Clubs in the home communities of the boys and girls are the basis for the 4-H organization. These clubs are guided by volunteer local leaders, who receive assistance and training from county and other extension workers. During the year, the 222,819 men and women who led the clubs received training at 53,219 meetings. These leaders received from county and State extension workers the guidance needed to carry on a successful program with the young people. Leaders held 413,916 meetings of local clubs which had a cumulative attendance of nearly 6 million members. More than one-half of these meetings were held without an extension agent's being present.

Public-Policy Problems in Relation to Agriculture

One of Extension's major responsibilities has long been to furnish farm people with economic information that would help them to plan for the future. This obligation is growing as the entire business of farming becomes more complex and the decisions that must be made are influenced by more and more conditions beyond the fence lines and

other boundaries. The 475,380 families reached with outlook information in 1948 represent but a small proportion of those needing this kind of guidance in carrying on their business.

Evidence of the interest in this type of information is the growing demand from farm groups that someone be present from the Extension Service when meetings are held to bring them up-to-date information on the economic situation. Demand from these same people is increasing for publications that will keep them currently informed.

Among the groups asking for such information, in addition to those belonging to general farm organizations, are thousands of cooperatives. There are more than 10,000 organized marketing and purchasing groups in the United States with a membership above 5 million. In addition there are mutual insurance companies, farm credit groups, processing cooperatives, and many others.

To reach the membership of most of these organizations, much of Extension's educational work of necessity must be done with their leaders and with key persons in the organizations.

Moving ahead on agricultural policy

That people may understand and take part in the many programs of national and international scope that are becoming a part of the economic and social system, they need complete information. Only in this way can there be full participation in farm and other programs that depend for their success on general acceptance.

Educational work on public-policy problems and their relationship to agriculture has been part of extension work for many years. Such problems have become more numerous in recent years, more controversial, and more complicated. The implications of many of these problems for farm people have become increasingly important.

A number of States have made a start toward placing greater emphasis on educational work concerning public problems. Such educational work is designed to develop in individuals an active interest in problems of public policy, an understanding of the issues and the principles involved, the ability to form judgments on the issues, and a desire to participate effectively in the solution of the problems.

To make such programs more effective a 5-day conference was held in Washington, D. C., in June 1949 for 18 State workers who thought through together the objectives, educational methods, and source materials for the further development of educational work in the field of public policy.

Public-policy educational work is well established in some States. During the latter part of 1948, in Indiana, schools in public policy were offered the various counties. Thirteen such schools were held during January, February, and March of 1949. Two subjects were presented: one dealing with the agricultural price-income problems for agriculture and one dealing with State and local government expenditures. The meetings were arranged by the county agricultural agent. From 25 to 75 leaders in each county were invited. The average attendance was 50, and the response and interest were good.

Five meetings were held with home economics club leaders on problems of local government, with special emphasis on schools. This information was then taken back by local home economics club leaders

to their local clubs. Ten meetings were held with local officials and leaders on county planning and zoning. Requests for such assistance are continually coming in from the counties.

A course in agricultural policy was taught at the Purdue-Fort Wayne extension center during the winter and spring semesters of 1949. This course was completed by 64 persons, including farmers, elevator operators, bankers, loan appraisers, county agents, vocational teachers, production credit association representatives, and others. Though this class was a part of the regular university teaching, it had an important value in relation to extension education in public policy, as those attending the class came from a 10-county area. The class probably will be repeated in two or three other centers in the State.

In all this work in agricultural policy, extension agents have given the people the facts dealing with the questions involved, and have explained the various policies and where each might lead. In general, meetings in agricultural policy have been kept small, so they could be handled on a discussion basis.

Marketing Farm Products

The efficient movement of the products of agriculture from producer to consumer is coming to be recognized as essential not only to the continued welfare of agriculture but to society as a whole. Therefore every practicable effort toward that goal merits attention and support. Important advances are taking place in the facilities and practices employed commercially in assembling and distributing farm products. Significant expansion is under way in research, service, and regulatory functions, and educational activities dealing with marketing.

The problems in marketing are critical, many of them immediate. Results of marketing research are becoming available at a sharply increased rate. Extension personnel qualified and trained in marketing is expanding. Extension is beginning to work on marketing problems on a broad scale with groups of people it has not worked with very much in the past, jobbers, retailers, consumers, and others—groups that far outnumber the producers and first handlers and processors.

Cotton ginning and marketing

In the Southern States extension workers have dealt with the problems of cotton ginning and marketing to the advantage of growers. The approach has been to encourage the adoption by growers and gin operators of better harvesting, handling, and ginning practices.

County agents in 443 cotton-producing counties helped 5,502 ginners in 1948 to select and operate ginning machinery that would increase the grade of the cotton produced. This help increased the number of gins equipped with driers, which added \$1 to \$5 a bale to the value of the ginned lint. In 1948, more than 75 percent of the crop was ginned on machines so equipped. This increased the value of the lint between 15 and 20 million dollars.

Lint cleaners were introduced at gins for the first time in 1948. The 100,000 bales handled by these gins were worth \$7.33 a bale more than

other cotton. The extra income amounted to nearly 1 million dollars.

County agents, with the help of nine State and two Federal specialists, held or assisted with 283 meetings of cotton producers and ginners. They visited 3,200 gins during the year. Operator schools were held in Arkansas, Alabama, Arizona, California, Missouri, North Carolina, and South Carolina. Attendance at these 1- to 3-day schools totaled 2,000. From Missouri, Arkansas, Texas, Louisiana, Mississippi, Tennessee, and Alabama, 460 persons attended 2-day schools held at the Department's cotton-ginning laboratory at Stoneville, Miss.

Information on harvesting, defoliation, and ginning for higher returns was given to farmers throughout the Cotton Belt at hundreds of extension meetings. Distribution of 25,000 copies of bulletins, circulars, and other materials to farmers and ginners helped to carry the message of how to get higher returns by producing higher grades.

Another part of the program has been to help reduce fire and accident losses. Further reductions in the fire losses that have characterized the industry were made in 1948. Belt guards and other safety devices helped to cut down the number of accidents in the gins and educational efforts to reduce losses from rolling, big-ended, and overweight bales showed definite results.

In North Carolina, a series of 2-hour meetings for veterans and nonveterans brought them information on the cotton-classing services and helped to acquaint producers with the market-news services and how to interpret them.

Other commodity marketing

Extension work in dairy marketing was conducted in 22 States in 1948. Attention was given to 4 main problems. The first of these related to pricing dairy products; the second, to quality improvement as a means to greater returns; the third, to educational work with creameries and other processors to bring about higher standards; and the fourth, to educational work with consumers to bring about increased consumption.

Work on fruits and vegetables was carried on in 37 States during the year. The marketing clinic held at Corbin, Ky., was typical. In this area the first commercial crop of strawberries went to market in 1947. A meeting was held before the berries ripened for the purpose of talking over with 142 growers, dealers, and bankers some of the problems involved. Other meetings followed this one, and as a result the entire crop was marketed satisfactorily.

In Kansas, farmers were helped to pool their orders for livestock. In this way high-quality individuals were brought into the herds. In 24 States egg- and poultry-improvement programs were under way. In all these States the major effort was toward increasing egg quality so that the egg market in each State might be strengthened.

Small cotton farmers in Tupelo, Miss., are increasing their income by raising broilers. Each day, 4,500 birds are killed, dressed, frozen, and shipped through the facilities of a local locker plant.

Locker plants are playing an increased role in the marketing of farm products. Many fruits and vegetables for which there would be no other market are being processed at these plants. In the Tennessee-Mississippi area, several locker plants freeze strawberries that are

too ripe to ship. There are more than 10,000 locker plants in this country, and in nearly all of them part of the meat butchered for farmer patrons is being sold to urban customers.

Marketing information

Keeping farmers informed is an important part of Extension's marketing work. Such a program, under the Research and Marketing Act, has been started in Pennsylvania. Various methods of giving economic and marketing information to producers, distributors, and county agents are being developed in the Pennsylvania market-information project. Demonstrating methods of assembling, analyzing, and disseminating background and current information for State use is part of this work. Particular attention is given to applying this information to the marketing of fruits, vegetables, potatoes, poultry, and eggs. The work is generally applicable throughout Pennsylvania, but with special emphasis given to seven counties and the markets in Philadelphia and Pittsburgh. Orderly marketing is the goal. Information about the movement in trade channels, foreseeing market gluts, and suggestions for improved distribution are the primary elements in the program.

In cooperation with the Federal-State crop-reporting service and selected cooperatives in the State, economic and marketing information is assembled covering cold-storage holdings, supplies on the farm and in trade channels, probable production, current price quotations in different markets, and consumer demands and preferences. For fruits and vegetables, information is compiled for Philadelphia, New York, Pittsburgh, Baltimore, and Martinsburg, W. Va. Similar material is assembled for poultry and eggs at important markets for the State.

To give economic and marketing information to producers and distributors, Pennsylvania in 1948 used the press, radio, direct mail, leaflets, and visual aids. On an average, one article a week was carried in the weekly county agents' news and a clip sheet was sent to county workers. News articles in this service were localized by the county agent. The agricultural editor supplied up-to-date economic and market news for magazines and metropolitan and out-of-State newspapers. An effort was made to give consumers a knowledge of foods in abundant supply, as well as background on the value of these foods in meeting family nutritional needs.

Consumer education

Tangible results from the use of research and marketing funds are already being seen in the work that is getting under way on consumer and retailer education. In Louisville, Ky., producers, buyers, and handlers of food, and consumers have been brought together by the aid of radio, newspapers, and service groups.

The program gives consumers up-to-the-minute information on foods available in local markets and suggests to them what to buy for canning, freezing, storage, and daily consumption.

As an example of what was accomplished during the year, the locally grown sweetpotato crop was featured for a 4-week period by two chain groceries. The potatoes sold readily as a result of this

featuring and the accompanying educational program. Louisville's program reached out to Versailles, Lexington, and Paris.

Other urban consumer education projects were functioning in Birmingham, Ala., Atlanta, Ga., Baltimore, Md., Seattle, Wash., and Milwaukee, Wis. South Carolina had a program that served both urban and rural areas of three counties. Louisiana had projects in New Orleans and five other cities.

Regional programs also were developing, such as the one in New York City. Referred to as the food-marketing service in New York City, the program reaches out to five boroughs, nine southeastern New York counties, three counties in Connecticut, and four in New Jersey. Under this program, information on food supplies is gathered and then is passed on to consumers through various media.

Another regional program was started in Boston and still another in the Kansas City area.

Training retailers

Extension is doing more and more work with distributors of farm products and is now developing an educational and demonstrational program to train retail food handlers. These programs are aimed at making farm products move more smoothly through distribution channels with less waste and less decline in quality, at a lower cost, and in such a way that farmers will make more money. Main emphasis is put on training retailers and their employees in proper methods of handling produce.

This work in Indiana has been outstanding. An extension mobile training unit or "school on wheels," a specially equipped highway trailer, takes a grocery store on wheels to the retailers. A concentrated 8-hour course of instruction is given in the handling of fresh fruits and vegetables. After the course, follow-up visits are made to trainees at their place of business. They are supplied with a manual and sent news letters and other publications as supplements to the course.

Conservation of Natural Resources

Conservation is not a type of work that can be set apart from other activities. What Extension does to promote conservation and what other agencies do are closely tied to management of farms, the crops raised, the types of livestock produced, and current economic situations.

Early in the history of the cooperative Extension Service, conservation of farm resources claimed the attention of many workers. In nearly every community where organized conservation work is now under way there is a history of demonstrations of improved practices. Liming of soils, terracing, contour planting of crops, tree planting, control of gullies, crop rotation, and many other practices were advocated and demonstrated by extension workers.

Conservation now has become a watchword in every rural section. It is understood by urban people far removed from the farm. People everywhere recognize the need to conserve natural resources if our future national strength is to be insured and the income of farm people is to be protected.

Extension's job in conservation is twofold. One part of this job is to work with other Federal and local agencies; the other is to prepare the way for another agency to function.

Conservation districts organized

Typical of this latter activity is the responsibility Extension has had for organization of soil conservation districts. During the year 131 new districts were organized. Since 1938, the number of districts has increased to 2,164. The area in districts is now more than 1,178 million acres. County extension workers have brought to the attention of farm families the need for conservation, the need for a district to further such a program, and have helped to bring it into being. Agents now work closely with Soil Conservation Service personnel in doing further educational work to bring families into farm-planning activities and to get them to adopt recommended practices.

Farmers in areas with organized districts and those outside still turn to the county extension agent for guidance on individual problems. Farm families are looking to the future and planning to adjust their operations to a changing economy. They know that wartime acreages of grain crops may only add up to unmanageable surpluses now that the wartime and postwar demand no longer exists. Farm families are interested, too, in restoring the fertility that was drained from the soil in years of high production. They want to stop the erosion that occurred under intensive cultivation. They want to erase that damage.

Shifting to grass and livestock

Shifts from grain mean that more grass and forage must be grown. More grass and forage means that more livestock must be produced and that certain changes in feeding methods must take place.

The complete shift is far from accomplished. It will be aided by Government programs that place further emphasis on these shifts.

Typical of the increased attention given to practices closely related to conservation is the 53-percent increase in the number of farmers assisted by extension agents with land-use problems since 1945. There was a 40-percent increase in the number of farmers assisted in arranging for farm-conservation plans and a 63-percent increase in the number helped to do work based on conservation plans. Help on farm ponds, an important part of many conservation plans, increased 68 percent from 1945. These are just a few indicators of the trend of thinking and the type of assistance farmers are requesting from extension workers. As a result of this demand, extension workers have increased the amount of time spent on soil conservation by 60 percent since 1943. Agents working with youth spent 200 percent more time on conservation in 1948 than they did in 1943.

Better land use and higher yields

Right now farmers are turning from wartime and postwar heavy production to less intensive crops. They are thinking about restoring the fertility of their land, about remedying some of the erosion; and about a type of agriculture that will include more forage.

This means that farmers are looking for guidance about crops for their hay land and pastures. They want to know which ones will give

the highest production, the most feed, protect the soil, and maintain stands.

Along with this choice of forages they are looking for new and improved strains of grain and other crops. They want high yields and crops of good market quality that are disease- and insect-resistant.

Farmers are eager for information that will make it easier to control weeds and insects. They want to harvest and store their crops with less effort, and at the same time increase the nutritive value of the feed.

To grow good crops, they know that they must lime and fertilize properly prepared seedbeds, cultivate to control weeds, and keep the soil in good tilth.

Along with making the proper decisions on varieties and culture, a majority of farmers have erosion or drainage problems. On the millions of acres where irrigation is practiced, distinct problems are involved in connection with those acres.

As they make these many decisions, farm families turn to their county extension agents for advice. They look to State extension specialists for new information. The State and county workers in turn look to the Federal Extension Service for guiding principles and for information this service is able to get from many sources.

These newer developments come so rapidly that the picture is constantly changing. New national farm policies, domestic and world demand, insect and disease outbreaks, and other developments keep constantly alive the need for the type of guidance Extension is able to give.

That there is a trend toward a grassland-livestock economy is indicated by the increased requests for help received by county extension workers. Between 1945 and 1948 the number of farmers assisted with problems of land use increased 53 percent. Those getting help on conservation plans went up 40 percent, and the number aided in putting these plans into effect went up 63 percent.

Help given with fertilizers on legume, pasture, and field crops and with planting new varieties shows an upward trend. The number of farmers assisted in obtaining new varieties of pasture grasses increased 47 percent from 1945 to 1948. Those aided with improved corn varieties was up 48 percent, and the number assisted with small feed grain about doubled.

In seven Southern States, where the 10-year average corn yield from 1935 to 1944 was only 16.5 bushels, the crop averaged 25.0 in 1948.

Corn-growing demonstrations have been used by extension workers to show the way to higher corn yields. Since 1944, 55,577 farmers have conducted these demonstrations. Their average yield was 66 bushels per acre. One-hundred-bushel or larger yields have been harvested by 8,378 of these demonstrators in the past 3 years.

Top yields, in bushels, in the States were: Alabama, 161; Georgia, 173; Mississippi, 185; North Carolina, 148; South Carolina, 162; Tennessee, 227; and Virginia, 200.

These yields resulted from a program that used adapted hybrid varieties, more plants per acre, more fertilizer applied according to

the needs of the soil and in quantities to get a definite yield, and shallow cultivation.

Evidence of the interest of farmers in learning about improved methods is indicated by their attendance at field-day demonstrations. In Wisconsin 82 county pasture improvement field days were held. The attendance was 20,400 farmers. At 43 grass-silage days, 9,000 turned out, and 2,900 attended 15 hay-making demonstrations.

In Indiana, 36,000 farmers attended 9 district grassland field days, and approximately 10,000 took part in crop-yield contests in many States.

To meet the demand for more accurate information on the fertilizer requirements of soils, testing laboratories are working overtime in Illinois, Iowa, Kentucky, Missouri, and Tennessee.

Better irrigation practices

In the Western States, personnel-training schools on irrigation practices were held for extension specialists and representatives of various Federal and State agencies interested in learning the best methods of irrigation and of water conservation. Seven of these schools were attended by 337 persons.

The irrigation specialists assisted the county agents at farmer-training schools held in the southwestern area. Six hundred and seventy persons were present at 23 meetings. Seven method demonstrations were conducted for Extension and Soil Conservation Service personnel. These demonstrations were attended by 2,069 persons. Ten farm tours were held with an attendance of 583 persons, and 449 persons were reached at 6 conferences attended by the specialist. Twenty-four talks were given to a total audience of 2,938 persons. Those reached through these meetings took back to their jobs information that helped them to aid farmers in conserving water resources.

Forestry conservation

Good forestry husbandry is an inseparable part of conservation. It is related to protection of watersheds, it assures future supplies of lumber and forest products, it provides home-grown timber for farm construction and for sale, and tree shelterbelts provide protection for farm families and their livestock.

Extension's program in forestry relates to farm-woodland management and to tree planting.

The Nation's farm woodlands give their owners an estimated annual income of 250 million dollars. Farm woodlands supply one-fourth of the sawlogs cut each year in the United States. They supply one-third of the pulpwood and almost all of the fence posts and fuel wood. Good woodland management applied to the 139 million acres of farm wood lots could increase this income to 750 million dollars.

More than 33,000 of the Nation's farmers were assisted in 1948 in thinning, weeding, or pruning forest trees, and the number helped with selective cutting was nearly 31,000. Others were assisted in timber estimating and appraisal, in the production of maple sirup products and naval stores. Fire prevention was stressed in farm woodlands and 650,000 farmers cooperated to prevent fires. The number who made plantings of new trees under Extension guidance was 63,518.

Members of 4-H Clubs are becoming increasingly interested in forestry work. During the year, 23,083 of them had 44,344 acres of woodland in their projects. An even greater number included conservation studies relating to soil, water, and forestry in their 4-H programs. Forest-fire prevention received the attention of a major part of the 495,659 club members who received training in fire and accident prevention.

Home-grown lumber provides many farm families with buildings they would otherwise be unable to construct. In Oscoda and Alcona Counties, Mich., more than 100 new barns were built in 1948 with lumber cut from farm woods. The cost was only one-third what it would have been if these barns had been built with commercial lumber. Many other States report similar construction, although on a less widespread scale.

Windbreaks provided protection for thousands of head of livestock during the severe blizzards in Nebraska and other Western States in January 1949. Farmers throughout the range area, as well as those in regions with less severe winter conditions, are among those who are planting more windbreaks and woodlands around their buildings.

One of the major activities of State extension foresters for which the Federal office is providing guidance, is giving farmers assistance in marketing and utilization of their products. Sawmill schools conducted by State foresters have reduced the loss and improved the quality of much of the locally sawed lumber.

Reducing Production Costs

Prices of farm products in general in the United States declined about 10 percent from July 1948 to the end of the year and have continued their consistent trend downward into 1949. This is the first time in about 10 years that farmers have experienced any general decline in prices. Older farmers remember similar periods in the past and tend to be conservative in their capital expenditures. For many young farmers, experiencing a price decline is something new. They base most of their plans on the recent decade of good times. Still others are well established in farming but anxious to develop sounder and better businesses. They are asking for advice on the adjustments that should be made to meet the lower price years that they feel may be ahead.

It was in this kind of a farm setting that the various extension workers tackled their jobs in 1948. Their educational program never has been static. By its very nature it must be current and flexible. Extension workers must know what is happening, and why. They must even look ahead and venture some comments on the future. Farmers turn to the Extension Service for authentic information on prices, costs, and sound practices. They want to know about the newer developments of science that will help them to make sounder decisions and advise with farmers' organizations, cooperatives, and informal groups concerning various problems of business management and efficient methods of production.

Better management on the farm

During 1948, the Extension Service actively assisted 194,668 farmers with their farm-record problems and worked directly with 75,805 farmers in an analysis of their farm businesses. Illinois alone distributed 70,000 copies of farm-record books to farmers in a program that trained them to analyze their own farm businesses. California expanded to 54 the number of different crop and livestock enterprise studies made with farm groups. Agriculture in California is highly specialized, and this work was conducted to help farmers improve the quality of their products at lower production costs. Three regional farm-management conferences were held by members of the Federal staff who also made many State visits to show State workers how to adjust their program in keeping with the needs of farmers in 1948.

Farm-family planning

The Extension Service is rapidly expanding its assistance to farm families in planning for the years ahead. Such work considers the income-producing capacity of the farm, the family living, and the proper use of available resources. During 1948, 115,509 farm families were assisted in developing farm plans. Indiana alone helped 2,164 farmers through group meetings to develop individual farm plans. Missouri as a part of its long-time program, started 3,930 additional farmers in the development of balanced farming plans, and assisted thousands of others who had started plans in previous years. Most States have conducted training programs in farm planning for staff members and instructors of veterans. Regional committees have been organized in the Midwest and Southern States to facilitate the training of State personnel. A regional workshop on farm and home planning was held for 65 extension workers in the Midwest.

Although much has been accomplished in farm planning, the job is only started. Of the 90 to 95 percent of the commercial farmers who need help, only 20 to 25 percent have received help to the point that near optimum use is being made of their resources.

Efficient use of labor

When farm prices fall and labor costs remain high, farmers need help in making the best use of the labor, machinery, and materials available to them. During the war years an educational program was developed in simplifying farm work to make the limited supply of labor go further. This same program made an important contribution in 1948, when the cost of labor was still relatively high.

In Maine an active program has been under way for several years to improve potato-harvesting methods in Aroostook County. This work deals with efficiency of digging equipment, digging crews, and the mechanical injury to potatoes resulting from various methods and equipment, all in their relation to cost and returns as affected by quality.

In Kentucky and many other States, farmers are exploring labor savings that may result from the "pen stabling" and "milking parlor" method of housing and caring for dairy cattle. The Extension Service is working closely with these farmers to evaluate results and pass on the tested conclusions to others.

In New York, the extension service and the experiment station are cooperating with 100 fruit growers to lower the costs of spraying fruit. The objectives of this work include measuring and evaluating costs, labor requirements, effectiveness and speed of various methods and equipment used in spraying apples, in terms of their relation to insect control, disease control, and yield and profits under different orchard situations.

These are but a few of the ways in which the Extension Service is helping farmers to keep costs down. The application of motion and time-study principles to farm work means a great deal to farmers. So far it has been possible only to explore the possibilities on specific jobs and in limited areas.

Farm accounting and the income tax

Farmers had numerous other problems during the year that were closely related to the management of their businesses. For example, present farm incomes and low tax exemptions require most commercial farmers to file Federal income-tax returns. It is increasingly important that these farmers keep adequate financial records as well as be kept informed of the many options provided by the tax laws. Guidance in this work has been given to the State extension services by the Federal office, which works closely with the Bureau of Internal Revenue on tax matters. Most income-tax literature used by the States was either prepared or reviewed by the Federal Extension office. To meet this responsibility the problem was approached on a regional basis. Thirteen States in the north central area jointly published over 150,000 copies of a circular prepared by the Federal Extension office in cooperation with a committee representing those 13 States. The New England States printed over 50,000 copies of a similar publication. New York State printed 100,000 copies of a farm tax bulletin for use in that State alone. Many articles taken from the aforementioned publications, were published in farm papers.

During 1948, the Federal Extension office was actively engaged in the preparation of educational materials on land tenure, in cooperation with the States and the Bureau of Agricultural Economics and in training State specialists on an individual and regional basis. Regional land-tenure committees that include representatives from over one-half the States in the United States are now functioning.

Sound use of credit

The Extension Service also provided information to enable farm families to make sound decisions in financial matters and help credit agencies improve the terms of their loans. Continued attention was given to the problem of high land prices and to the financial problems of young farmers. Information on father-and-son partnerships, better leases, sound use of credit, transfer of property to the younger generation, life insurance and major-risk insurance has been provided through State and Federal publications and other channels.

Work with credit agencies has been chiefly in State or district conferences of officials from lending institutions. The Farm Credit Administration, the Farmers Home Administration, the American Bankers' Association, State bankers' associations, and others were active participants in these conferences. About 100 representatives from

these lending groups attended a 2-day conference at Athens, Ga. Similar conferences were conducted in the Northeast, Middle West, and South.

Plant pathology

Plant-disease control is increasing crop production and farmers' incomes in all parts of the Nation. It is estimated that 60 percent of the wheat, oats, barley, and rye grown in Minnesota and in North and South Dakota in 1948 was from treated seed. The increased production was valued at \$19,000,000. Kansas' wheat, oats, barley, and grain sorghums, grown from treated seed, were valued at \$28,000,000, Colorado's at \$4,000,000.

Treatment of 30 percent of the cottonseed planted for the 1948 crop added an estimated 313,000 bales to the harvest and resulted in the production of 100,000 tons more seed.

By treating sugar-beet seed, growers raised 220,000 more tons and increased their income by 1½ million dollars.

These are just a few examples of how extension work in plant pathology is helping farmers to increase production of important crops and add to their incomes.

Weed control

Time-tried cultural methods of weed control are giving way to more modern methods. Although the cultivator and other implements still are necessary to the production of a crop, the amount of field work required is being cut because of the increasing use of chemicals.

Extension is helping farmers to use these new methods by means of demonstrations, meetings, publications, and individual advice. The number assisted since 1942 in controlling weeds has increased 112 percent for pastures, 328 percent for corn, 235 percent for wheat and 350 percent for other cereals, 63 percent for cotton, 520 percent for tobacco, 61 percent for legumes, 66 percent for vegetables, and 130 percent for fruit.

Carrots and parsnips are among the crops that formerly required considerable hand work for weed control. Increased use of oil sprays has done away with much of the hand labor and only thinning is now required for controlling crops of carrots and parsnips.

Insect control

Insects and parasites are a constant threat to the Nation's crops and livestock. Control measures for some of these pests are well established, and newer methods are constantly being developed and finding general acceptance for others.

Generally the number of farmers assisted by extension workers with insect-control problems has shown large increases since 1945. Because of the spread of the European corn borer into new territories the amount of help given on the control of corn insects increased 313 percent since that year.

Cotton farmers received 312 times the assistance during the year that they did 4 years earlier; wheat farmers, 129 percent; control for legumes, 112 percent; and tobacco, 114 percent. The number of farmers assisted in growing potatoes and other vegetables increased 488 percent. Among fruit growers the increase was 226 percent.

DEATH TO FLIES.—Figures are not available as to the number of towns and cities in which fly control was practiced but the extension entomologist reported 600 in Iowa. Fifteen cities and boroughs in Pennsylvania practiced control on flies and mosquitoes.

Iowa's extension entomologist estimated that fly-control work with beef cattle increased production by nearly 39 million pounds, valued at \$13,600,000. Increased milk production as a result of fly control was set at nearly 218,000,000 pounds, worth \$7,623,000. The cost of the control was only 1 percent of the return.

WAR ON COTTON INSECTS.—Extension work on cotton-insect control saved cotton valued at more than 8 million dollars in Alabama and nearly 11 million dollars' worth in Mississippi. Oklahoma put the increased value of the crop at 12 million dollars. A demonstration program on cultural methods for boll-weevil control conducted in Williamson County, Tex., was so successful that dusting was not needed. In this one county the increased return was put at \$3,400,000, while the return for all Texas farmers who used recommended control measures, was estimated at more than 69 million dollars.

In these and other cotton States, county extension workers, State specialists, and the Federal specialist contributed to the educational program that brought about the adoption of improved practices by cotton growers.

CORN BORER DAMAGE.—One of the most serious threats to a widely grown crop is the European corn borer, a pest that has gradually spread across the country until it now infests the major part of the Corn Belt. Total dollar loss to field corn and sweet corn in 1948 was estimated at \$103,236,000, more than 99 million dollars of this loss being in field corn. In Iowa alone the loss was placed at 46 million dollars and in Illinois the loss was over 25 million dollars.

Corn-borer control is one of the big unfinished jobs for extension workers in States with severe infestations. This is one of the reasons why the amount of time spent on corn insects has tripled within a few years. Some progress on control has been made, farmers adopting recommended control practices. Clean plowing, uniform planting dates, and chemical control with DDT and other sprays and dusts all show promise for reduction of damage.

Iowa farmers who followed extension recommendations in 1948 on 119,250 acres saved \$3,188,750 by their work. In Illinois, sweet-corn growers in some of the principal counties growing roasting ears, treated 1,000 acres and increased their profits by \$684,000. A \$50,000 gain was made by Illinois farmers who grow corn for canneries, when they used control measures on 10,000 acres.

Insect-control measures applied to other crops in many States resulted in large savings. Federal-State grasshopper-control measures applied to 12 million acres saved 68 million dollars' worth of crops. Pennsylvania potato growers netted 2½ million dollars more from their crops by controlling insects with DDT. In Alabama more than 5 million dollars' worth of peanuts were protected by dusting.

Codling moth control with DDT sprays reduced damage to Washington State's apples and pears from about 10 percent to 1 percent and increased the value of the crop by more than \$7,600,000. Cost of spraying was cut from 15 to 5 cents a box by using DDT.

Garden-insect control under the guidance of extension workers makes smaller contributions to the total dollars saved annually, but it is still important. In Mississippi, the adoption of improved practices saved an estimated \$514,000. In that State a Negro home demonstration agent reported that garden production had been increased among her people because "more work was done on insect control and less left to 'luck'."

FIGHTING LIVESTOCK PESTS.—New insecticides have helped to give farmers the upper hand in the control of many pests that infest their livestock. Cattle grubs, lice on all kinds of stock, sheep ticks, and other insects are being successfully combated. Estimates for 1948 were that 22 million of the 80 million head of cattle in the Nation were treated to control insect pests resulting in an increased income of 83 million dollars. Treatment of 4 million sheep in 29 States added 5 million dollars to the owners' incomes.

Cattle grub work alone has added millions of dollars to the income of everyone concerned with the handling of hides, because it has reduced the number of grubby and damaged hides going to the tanneries.

Controlling rodents

Extension workers have cooperated with the Fish and Wildlife Service of the United States Department of the Interior on rodent-control programs. They also have cooperated with other local and State groups and organized many rodent-control programs and demonstration as extension projects. All these activities have added materially to the income of farmers and reduced damage to property and food stocks. Typical of what has been accomplished was a rat-control program in Mississippi, where 89 county workers assisted 30,000 farmers to put on a rat-control campaign. By getting rid of their rats these farmers saved approximately \$1,770,000.

Assured supplies of meat, milk, and eggs

Livestock production is one of the most stable parts of the Nation's agricultural economy. Year in and year out, there is relatively little difference in the quantities of meat, dairy, and poultry products that are available to the American public. As the population increases the production of animal and poultry products rises, so that per capita supplies remain much the same.

This is possible because farmers have increased their livestock production efficiency by putting to work in their herds and flocks the information that research uncovered and applied methods that make their feed produce more meat, milk, and eggs. Through better feeding and care, reduction of diseases and parasites, increasing demands are met.

Better balanced rations for beef cattle, sufficient protein in the rations, saving a larger percentage of the calf crop, and improved breeding raised the annual production per cow from 364 pounds in 1920, to 448 pounds in 1948.

More pork per litter

Pork production per sow has almost doubled in the same period. In 1948 it was 2,134 pounds as compared to 1,169 in 1920. Credit

for this increase is due to the larger number of pigs saved per litter, to more producers farrowing two litters per year, to reduction in disease and parasites, and to the use of better balanced rations by farmers.

Gains in sheep production

Even greater gains have been made in the production of lamb and mutton. Each ewe now produces 60.1 annually as compared to 33.6 pounds in 1920.

How much can be done to further increase the total supply and the production per animal depends on Extension's success in carrying an educational program to farm families. Accomplishments of the past 30 years are merely evidence that supplies can be materially increased if enough educational work is done. The end of this effort is not yet in sight, in spite of the fact that county extension workers spent a total of nearly 375,000 days on livestock work in 1948, and that their efforts were backed up by more than 24,000 days' work on the part of State animal-husbandry extension specialists.

Signs of progress

Some definite results of these extension programs are reflected in reports from States such as New Mexico, where one-third as many sheep now produce two-thirds as much wool and the same poundage of lamb as they did before the flocks were improved and better management started.

In Wyoming, wool production has increased 1 pound per head on 1 million animals, and the weight of the lambs now averages 3 to 5 pounds heavier than before flock-improvement work was undertaken.

In areas of deficient minerals the calf crop has been increased by 30 percent just by feeding minerals, and the weight of fed cattle has gone up 10 to 20 percent.

Missouri's better beef sire program is continually increasing the amount of beef raised in that State's herds. It is estimated that 7,081 high-quality bulls placed in herds last year will sire calves worth \$3 to \$4 a hundredweight more and add 1½ million dollars annually to farm income.

Tennessee's livestock program has increased the livestock portion of total farm income from 29 percent to 50 percent.

Artificial breeding takes hold

Good sires are having an increased opportunity to perpetuate their good breeding as the number of artificial-breeding associations increases from year to year. Starting with 6 associations in 1939, the number grew to 1,263 in the first half of 1949. It is estimated that 10 percent of all dairy cattle in the United States will be artificially bred in 1949.

Along with the increase in associations has come a substantial increase in the number of cows bred per bull and per association. In 1939, 228 cows were bred for each bull in the studs.

Membership in these dairy-breeding associations has grown in 10 years from 646 to 316,177 and the number of cows owned by members, from 7,539 to 2,412,160.

Both county and State extension workers have had a big hand in bringing these associations into being and in guiding them through

their early years. Established associations are now going ahead under the impetus imparted by extension and new ones are profiting by the experiences of the pioneers.

Dairy herd-testing increases

As artificial-breeding associations expand, the importance of production testing becomes more important. This testing not only checks on the sires used in associations but helps to locate new bulls for their studs.

On January 1, 1949, 1,787 standard dairy herd-improvement associations were operating in 48 States and Hawaii, the highest number in history. Records are being kept on about a million cows. Average production of association cows is about 350 pounds of butterfat annually, a 30-pound increase in 10 years, or 75 percent more than the average for all cows in the national herd.

Emphasis on roughage

Much of Extension's program with dairymen is directed toward increased use of roughage in the dairy ration. To maintain production with roughage requires that it be of high quality, be high in legumes, and be harvested and stored in a way that will preserve all the feeding qualities. Good pastures fit into this program, too: Year-round pastures in the South and long-season pastures in the North.

Dairymen who produce good-quality forage can look to these feeds to supply 75 to 85 percent of the total ration, all of which can be home produced. This program of good roughages for the dairy herd is closely allied to the crop programs of individual farmers and to Extension's work on crop production and harvesting.

Other points in the program

Along with good breeding and good feeding and testing, extension dairymen and county workers are helping dairymen to improve dairy cattle housing. Emphasis is being placed on remodeling of dairy barns. Particular attention is being paid to providing housing that will make it easy to produce sanitary products and meet the rigid requirements of local authorities as well as those of the Federal Government. An increasing number of dairymen are asking for advice on the construction of "loafing" barns and of "milking parlors."

Now that tuberculosis has been almost wiped out of dairy herds and progress is being made in the control of brucellosis, a drive is on to reduce or eliminate mastitis from dairy herds. Sanitation is receiving particular attention in this program, along with other practices that seem to be of major influence in stimulating a good condition in the herd.

Poultry business looks up

During the past several years Federal, State, and county extension workers have spent a portion of their time helping to promote the Chicken of Tomorrow Contest. The aim of the program has been to discover in the hatching flocks of the country birds of superior meat type that could be used as the foundation for breeding work.

Federal and State extension poultrymen worked closely with the national and State groups supporting this program. County workers

did much to make the program a success by encouraging producers to enter birds, by tying good young stock management into the program, and by arranging for local shows. The program operated in 44 States and involved 50 million chicks from contestants' flocks.

Another national program that Extension took the lead in organizing, and for which State extension poultrymen in 14 States are still the contact persons, is the National Poultry Improvement Plan, organized in 1935. It is administered by the Bureau of Animal Industry and the States, but much of the education work is done by the Extension Service.

Through improved breeding and selection this plan operates to raise the standards of hatchery flocks throughout the country. In the plan's first year there were $3\frac{1}{2}$ million birds in participating flocks, and in 1947, 27.2 million birds. The plan contributed to the general substantial increase in average rate of egg production from 122 in 1935, to 158 in 1947.

Egg production rises

As a result of improved management in poultry flocks the average annual egg production of all birds has increased 35 percent in the past 15 years. In 1948 it was 160 eggs per bird. At the 1934 rate of lay, the same number of eggs in 1948 would have required 192 million more hens. This increased production has been accomplished largely through educational programs with producers, many of which were conducted by extension workers. It has been possible largely because of better balanced rations, better housing, and other improved management practices.

The broiler production phase of the poultry program is expanding. From January to June 1949, the number of broilers produced in the United States was 37 percent higher than in the same period in the previous year. This expansion has taken place in large commercial broiler plants and to an important extent in the flocks of farm operators.

The following quotation from the report of one of the field agents for extension work with Negroes indicates some of the developments that are taking place in the poultry industry.

Once the Negro farmer was advised to keep at least 50 well selected hens for laying. It is not unheard of now to see a release that a farmer has a laying flock running into the hundreds.

Broiler raising is a fast-growing enterprise that has grown beyond the "pin-money" stages. There are Negro farmers who report an annual income from raising broilers that exceeds the salaries of some public-school teachers.

The raising of turkeys is engaged in by farmers of various communities. Flocks of over 1,000 birds a year are on official record.

Power grips the farm

Engines and motors give farmers more and more power each year. They do the heavy tasks once done with human muscles and with oxen and horses. And they do many of the irksome chores and tasks in the house and the barn. They free farm people from drudgery.

During the year, big tractors and engines and the machines they operated cleared land for food and feed. They blazed fire lanes to protect forests. They dug ponds and ditches and laid drain tile.

They built terraces and dams for conserving soil. They pumped the water that made deserts productive.

Millions of sturdy farm tractors on rubber tires rolled quickly over farms, roads, and fields, plowing the land, preparing seedbeds, and planting the crops. Weeds were controlled with cultivators, flame weeders, and chemicals. Insects and disease were checked with airplanes and ground machines that applied chemicals in dusts or sprays.

Combines cut and threshed the grain, replacing cradles, reapers, and binders, and the large harvesting and threshing crews. Machines picked a large percentage of the corn crop. Forage choppers and pick-up balers lessened the work with pitchforks in harvesting forage. Elevators and blowers filled barns, granaries, and tall silos, with forages and grains. Mechanical cotton pickers were common sights in many parts of the Cotton Belt.

Electric motors and small engines did many of the chores. They operated milking machines, grinders, water pumps, refrigerators, coolers, hoists, barn cleaners, unloading equipment, elevators, shop tools, and welding equipment. Electrical equipment heated water, lighted buildings, warmed young animals, brooded chickens, heated plant beds, and cured hay and sweetpotatoes.

Motors powered equipment for washing, ironing, churning, cooking, canning, freezing, cleaning, and sewing.

The use of power and machinery brings new problems. Machines and equipment must be selected carefully to do their work properly. They must be efficient and economical. They must be operated properly and serviced regularly. Farm people want assistance from extension workers in solving many of these problems. In 1948, extension workers helped over 200,000 farmers to select nearly 100,000 items of mechanical equipment and to use it to better advantage. They also helped nearly the same number in giving equipment proper maintenance.

Farmers' interest in equipment is shown by their attendance at meetings. In Iowa over 40,000 people attended one meeting for displaying and demonstrating modern equipment.

Improvement in farm buildings parallels improvements in power and machinery. Buildings must be properly wired to use motors and other electrical equipment to advantage. They must be remodeled to shelter and use power equipment. Farmers look to the Extension Service for this help. In Illinois, 2,818 farmers attended 51 farm-building meetings. And 3,765 farm people attended 19 similar meetings in Kansas.

County agents and extension agricultural engineers furnished plans for or otherwise assisted 323,684 farmers in remodeling or building houses, barns, and other farm buildings in 1948. In addition, they helped to plan or install water, heating, and sewage systems and other equipment on 170,194 farms.

Work to improve quality

Much of the work of extension agents and specialists makes for improved quality of farm products. This not only results in superior commodities for the consumer but usually, also, in increased income to the producer.

An outstanding example of what has been accomplished by the efforts to improve the quality of farm products is the standardization of cotton varieties in 13 Southern States. By 1935, 5 percent of the cotton grown in some communities in these States was of one variety. In 1948, 80 percent of the crop grown in these communities was of this variety.

Cotton harvested from the acreage under the one-variety community production program averaged 369 pounds to the acre as compared with 248 pounds for the other acreage. This increased yield added \$441,600,000 to the income of farmers, who planted according to extension recommendations.

State crop-improvement associations cooperating with the Extension Service and other agencies inspected nearly $1\frac{1}{2}$ million acres of seed crops during 1948. Of this acreage, the part planted to grass and legume varieties showed a definite increase.

Seed certification is an important part of the program to bring about adoption of improved varieties. Before extension workers can set up demonstrations and recommend the use of these new and improved varieties, they must have a dependable source from which to obtain them. Once the varieties are established, it also is important to have a dependable source of pure strains. This is provided through the certification services of the 42 States doing this type of work.

The 61 million bushels of field crop seeds, the 26 million pounds of other seeds, and the 800,000 stolons certified in 1948 included commonly grown agricultural plants.

Much of the work with livestock aims to improve the quality of livestock products. Demonstrations and projects on feeding and management usually aim to improve the quality of the meat and by-products of animals. The objective of much of the work on disease and parasites is to improve the quality of consumer products. This has been particularly true of the work with poultry.

Nearly all States carried on an intensive program for quality improvement in dairy products. These programs helped to give consumers a better product and the higher quality was reflected in higher incomes for producers.

STATISTICS

Congress appropriated \$1,000,000 additional Federal funds for the fiscal year 1950 authorized by the Bankhead-Flannagan Act. The funds total \$74,048,514 from all sources for cooperative extension work for the fiscal year ending June 30, 1950. Of this amount, 55 percent (\$40,740,011) is State and local funds, and 45 percent (\$33,308,503) is Federal funds. This compares with total regular appropriations for the fiscal year ended June 30, 1949, of about \$67,306,309, of which 48 percent (\$32,104,203) came from Federal and 52 percent (\$35,202,106) from State sources. No funds were withheld from the States during 1948-49 for failure to comply with the requirements set down by Congress.

TABLE 1.—Number of counties with county extension agents, July 1, 1915, 1925, 1935, and 1949, and total number of extension workers, July 1, 1949

State	Number of agricultural counties in State	Counties with agents on July 1—								Total extension workers July 1, 1949	
		1915		1925		1935		1949			
		County agricultural	Home demonstration	County agricultural	Home demonstration	County agricultural	Home demonstration	County agricultural	Home demonstration		
Alabama	67	67	19	59	37	67	44	67	67	425	
Arizona	14	3	—	12	9	11	6	12	¹ 10	43	
Arkansas	75	52	20	50	39	75	72	75	75	297	
California	54	11	—	43	22	43	25	48	39	336	
Colorado	57	13	—	20	2	45	5	¹ 50	¹ 29	136	
Connecticut	8	6	—	8	7	8	8	8	8	77	
Delaware	3	3	—	3	—	3	3	3	3	26	
Florida	63	36	27	36	30	44	29	61	44	206	
Georgia	158	81	48	121	61	155	80	150	¹ 125	482	
Idaho	44	3	—	16	27	31	37	40	19	101	
Illinois	102	18	—	95	21	97	39	¹ 101	¹ 96	364	
Indiana	92	31	—	79	1	91	12	92	68	324	
Iowa	99	11	—	99	15	99	35	99	75	377	
Kansas	105	39	—	63	15	100	27	102	¹ 84	328	
Kentucky	120	39	19	72	24	114	29	120	90	328	
Louisiana	64	43	13	48	24	62	52	64	64	329	
Maine	16	3	—	16	15	16	15	¹ 15	¹ 16	69	
Maryland	23	13	6	23	19	23	23	23	22	152	
Massachusetts	12	10	—	11	11	11	10	11	11	112	
Michigan	83	17	—	57	5	73	5	¹ 83	¹ 60	289	
Minnesota	87	23	—	58	8	86	11	87	53	287	
Mississippi	82	49	33	54	44	79	69	82	79	461	
Missouri	114	15	—	50	9	114	14	114	98	361	
Montana	56	8	—	23	6	40	8	¹ 50	22	115	
Nebraska	93	8	—	43	2	93	14	¹ 83	44	183	
Nevada	16	—	—	8	9	14	6	¹ 15	¹ 9	32	
New Hampshire	10	5	—	10	8	10	10	10	10	64	
New Jersey	20	7	—	18	11	19	15	20	19	109	
New Mexico	31	8	—	21	5	24	10	30	18	99	
New York	56	29	—	55	38	51	37	56	52	458	
North Carolina	100	64	34	74	49	97	53	100	100	587	
North Dakota	53	15	—	33	1	53	4	51	14	109	
Ohio	88	10	—	85	15	84	22	88	77	283	
Oklahoma	77	56	24	65	44	77	68	77	77	314	
Oregon	36	12	—	28	3	34	6	36	28	171	
Pennsylvania	67	14	—	63	28	65	63	67	66	269	
Rhode Island	5	—	—	5	2	5	5	¹ 5	¹ 5	27	
South Carolina	46	43	24	40	38	46	46	46	46	301	
South Dakota	67	5	—	34	32	69	27	58	¹ 40	133	
Tennessee	95	38	24	50	26	95	42	94	85	404	
Texas	254	99	27	155	88	235	151	¹ 250	¹ 198	747	
Utah	29	10	—	18	11	21	8	28	21	82	
Vermont	14	9	—	12	7	14	11	14	13	65	
Virginia	99	55	22	65	35	93	42	¹ 99	¹ 89	379	
Washington	39	10	—	26	5	38	8	39	33	152	
West Virginia	55	27	10	36	15	44	27	50	40	180	
Wisconsin	71	12	—	48	1	65	7	¹ 71	¹ 64	298	
Wyoming	23	6	—	16	5	20	7	22	18	72	
Alaska	4	—	—	—	—	—	—	1	2	7	
Hawaii	5	—	—	—	—	4	4	4	4	76	
Puerto Rico	56	—	—	—	—	—	—	56	56	18	
Total	3,107	1,136	350	2,124	929	2,857	1,351	3,027	2,485	11,810	

¹ Some agents cover two or more counties.

TABLE 2.—Number of extension workers, June 30, 1949

State or Territory	County agent work		Home demonstration work		Boys' and girls' club work ¹		Total
	White	Negro	White	Negro	White	Negro	
EASTERN REGION							
Connecticut	8	2	1	8	7	8	24
Delaware	3	1	1	3	1	3	10
Maine	16	2	1	13	3	1	15
Maryland	23	4	1	23	17	1	15
Massachusetts	12	1	1	11	16	1	15
New Hampshire	10	3	1	10	9	1	15
New Jersey	20	2	1	20	10	1	20
New York	56	1	4	56	70	1	60
Pennsylvania	67	5	1	67	47	1	67
Rhode Island	5	1	1	3	3	1	5
Vermont	14	2	1	14	7	1	15
West Virginia	55	1	1	48	1	2	55
Region total	289	25	10	5	276	187	88
SOUTHERN REGION							
Alabama	67	1	5	67	122	1	67
Arkansas	75	3	4	79	35	2	51
Florida	63	2	4	61	31	2	12
Georgia	159	2	7	150	44	1	44
Kentucky	120	2	1	6	120	34	4
Louisiana	64	2	5	64	59	1	87
Mississippi	82	2	5	81	88	1	64
North Carolina	100	3	5	99	129	1	79
Oklahoma	77	3	4	77	50	1	100

See footnotes at end of table.

County agents	24	77
Assistant State leaders	1	26
State leaders	1	10
County agents	1	15
Assistant County agents	1	15
State leaders	1	60
County agents	1	152

County agents	8	26
Assistant State leaders	3	16
State leaders	1	16
County agents	1	16
Assistant County agents	1	16
State leaders	1	16
County agents	1	16

County agents	13	112
Assistant County agents	4	30
State leaders	1	30
County agents	1	16
Assistant County agents	1	16
State leaders	1	16
County agents	1	16

County agents	4	458
Assistant County agents	1	139
State leaders	1	139
County agents	1	139
Assistant County agents	1	139
State leaders	1	139
County agents	1	139

County agents	34	458
Assistant County agents	54	139
State leaders	5	139
County agents	34	139
Assistant County agents	54	139
State leaders	5	139
County agents	34	139

County agents	34	458
Assistant County agents	54	139
State leaders	5	139
County agents	34	139
Assistant County agents	54	139
State leaders	5	139
County agents	34	139

County agents	35	180
Assistant County agents	12	120
State leaders	5	120
County agents	35	120
Assistant County agents	12	120
State leaders	5	120
County agents	35	120

County agents	5	180
Assistant County agents	12	120
State leaders	5	120
County agents	5	180
Assistant County agents	12	120
State leaders	5	180
County agents	5	180

County agents	66	269
Assistant County agents	2	27
State leaders	12	27
County agents	66	27
Assistant County agents	2	27
State leaders	12	27
County agents	66	27

County agents	5	446
Assistant County agents	1	446
State leaders	5	446
County agents	5	446
Assistant County agents	1	446
State leaders	5	446
County agents	5	446

TABLE 2.—Number of extension workers, June 30, 1949—Continued

State or Territory	County agent work		Home demonstration work		Boys' and girls' club work ¹		Total
	White	Negro	White	Negro	White	Negro	
SOUTHERN REGION—contd.							
South Carolina	46	2	46	1	33	1	48
Tennessee	95	3	95	1	11	5	54
Texas	254	3	243	79	1	16	404
Virginia	99	4	97	50	1	84	747
Puerto Rico	56	3	55	15	26	13	379
Region total...	1,357	35	1,334	879	8	347	102
NORTH CENTRAL REGION							
Illinois	102	2	98	26	1	89	46
Indiana	92	2	92	41	1	67	38
Iowa	99	5	96	8	1	4	71
Kansas	105	1	101	21	1	77	25
Michigan	83	2	76	17	1	46	3
Minnesota	87	3	91	8	1	54	8
Missouri	114	3	114	78	1	95	9
Nebraska	93	2	79	13	1	38	4
North Dakota	53	1	4	50	8	1	14
Ohio	88	2	6	88	45	1	2
South Dakota	68	1	3	57	5	1	72
Wisconsin	71	3	6	71	35	1	29
Region total...	1,055	27	5	57	1,013	305	714
WESTERN REGION							
Arizona	14	2	12	6	1	7	3
California	56	1	48	161	3	38	32

10 43

43 336

COOPERATIVE EXTENSION WORK

Colorado	63	2	2	47	8	27	3	1	2	17	26	136
Idaho	44	2	1	3	40	19	3	1	1	10	19	101
Montana	56	2	2	43	12	22	3	2	2	10	25	115
Nevada	16	4	11	5	1	1	6				6	32
New Mexico	31	3	1	30	21	19	8				13	99
Oregon	36	5	1	37	29	28	2	1	2	3	36	171
Utah	29	3	1	28	7	22		2			19	82
Washington	39	3	1	39	39	32	7	1	2		22	152
Wyoming	23	2	1	22	9	18		2			17	72
Alaska	4	1	1	1	1	1		1			7	76
Hawaii	5	2	1	9	26	10		1			16	76
Region total	416	32	5	17	367	326		10	13	248	68	1,422
Grand total	3,117	119	23	158	2,990	1,697	9	355	43	139	2,383	11,810
Total, June 30, 1948	3,107	117	20	160	2,967	1,525	10	17	351	43	133	2,327
								2	19	369	58	1,876
								2	19	136	7	11,440

¹ These are special 4-H Club workers. In the majority of States, and in Alaska, Hawaii, and Puerto Rico, 4-H Club work is conducted by county agricultural agents, county home demonstration agents, and assistants.

² Includes 32 special part-time county 4-H Club agents.

³ Includes 3 special part-time home demonstration agents.

⁴ Includes 18 special part-time assistant home demonstration agents.

⁵ Includes 42 special part-time county 4-H Club agents.

TABLE 3.—*Expenditures of funds¹ from all sources for cooperative agricultural extension work in States, Alaska, Hawaii, and Puerto Rico, for the fiscal year ended June 30, 1948, by sources of funds and totals for 1943-47*

State	Grand total	Total Federal funds	Total within States	Funds from Federal sources			Funds from within States		
				U.S. Department of Agriculture	Smith-Lever and Bankhead-Jones	Bankhead-Flanagan	Capper-Ketcham	Additional cooperative	State and college
Alabama	\$1,854,587.60	\$1,039,110.00	\$815,477.60	\$1,282.50	\$654,071.94	\$342,811.38	\$37,220.03	\$3,724.15	\$396,195.26
Arizona	1,321,633.58	167,545.84	154,087.74	1,620.00	545,089.61	94,410.17	50,302.45	22,833.22	94,908.75
Arkansas	1,379,870.40	834,780.79	1,790,719.16	\$1,620.00	624,652.97	538,543.78	254,450.49	33,217.36	6,949.16
California	2,415,372.13	624,167.78	339,354.75	1,260.00	666,167.78	414,446.82	171,121.35	114,541.44	1,133,954.16
Colorado	448,579.40	159,826.51	288,752.89	1,620.00	326,813.03	158,977.29	24,638.47	27,395.83	150,000.00
Connecticut	120,988.34	89,307.74	31,680.60	1,620.00	1,030,673.65	545,535.94	1,620.00	26,534.02	24,799.96
Delaware	836,113.13	290,577.19	874,689.68	1,620.00	563,618.15	319,894.46	1,260.00	55,616.39	12,584.53
Florida	1,905,363.33	1,243,723.69	1,402,516.41	1,620.00	2,227,640.14	825,123.73	1,525.50	184,780.44	76,759.03
Georgia	1,867,072.03	632,295.53	1,234,776.50	1,620.00	769,989.90	521,357.54	1,620.00	659,355.43	303,790.57
Idaho	2,291,347.44	1,129,251.47	1,731,476.74	1,620.00	1,588,602.78	901,120.32	1,620.00	625,981.53	127,709.65
Illinois	715,439.61	202,574.06	170,422.76	1,615.05	372,996.82	453,799.87	1,620.00	435,848.30	217,964.26
Indiana	717,935.38	176,190.25	541,745.13	1,620.00	1,442,578.22	732,858.88	1,440.00	115,430.13	468,515.29
Iowa	1,690,368.91	561,117.44	1,129,251.47	1,620.00	1,300,995.22	718,181.55	1,620.00	323,026.46	158,418.03
Kansas	1,718,337.50	986,860.76	731,476.74	1,620.00	1,807,977.21	1,056,086.43	1,620.00	625,981.53	321,871.27
Kentucky	1,588,602.78	687,482.46	901,120.32	1,620.00	1,702,499.87	901,364.91	1,620.00	435,848.30	217,964.26
Louisiana	372,996.82	202,574.06	170,422.76	1,615.05	618,587.60	250,967.16	1,620.00	129,431.86	44,919.26
Maine	715,439.61	261,639.74	453,799.87	1,620.00	717,935.38	1,442,578.22	1,440.00	171,248.61	62,317.88
Maryland	717,935.38	176,190.25	541,745.13	1,620.00	1,442,578.22	732,858.88	1,440.00	115,430.13	115,430.13
Massachusetts	1,442,578.22	732,858.88	709,719.34	1,620.00	1,300,995.22	582,813.67	1,620.00	471,836.40	222,273.52
Michigan	1,300,995.22	718,181.55	751,890.78	1,620.00	1,807,977.21	1,056,086.43	1,620.00	458,982.90	223,745.34
Minnesota	1,807,977.21	1,056,086.43	801,134.96	1,620.00	1,702,499.87	901,364.91	1,620.00	659,454.04	358,141.77
Mississippi	1,702,499.87	901,364.91	367,620.44	1,620.00	618,587.60	250,967.16	1,620.00	564,917.54	297,253.46
Missouri	618,587.60	250,967.16	709,719.34	1,620.00	717,935.38	1,442,578.22	1,440.00	118,162.50	75,936.50
Montana	974,109.42	471,945.16	502,164.26	1,620.00	206,180.35	110,780.51	1,200.00	266,393.57	127,167.02
Nebraska	206,180.35	115,798.01	95,399.84	1,620.00	333,946.16	218,148.15	1,620.00	40,493.58	36,348.66
Nevada	690,503.51	209,163.88	481,339.63	1,620.00	485,173.12	233,141.80	1,620.00	70,238.64	20,990.53
New Hampshire	3,796,738.90	684,165.34	3,112,573.56	1,620.00	3,208.22	2,668,183.37	1,576,144.85	812,167.22	411,772.14
New Jersey	2,844,328.22	1,268,183.37	1,243,245.58	1,620.00	616,053.24	372,807.66	1,620.00	184,334.82	123,705.06
New Mexico	3,796,738.90	684,165.34	3,112,573.56	1,620.00	616,053.24	372,807.66	1,620.00	24,442.25	24,442.25
New York	2,844,328.22	1,268,183.37	1,243,245.58	1,620.00	616,053.24	372,807.66	1,620.00	71,049.89	71,049.89
North Carolina	2,844,328.22	1,268,183.37	1,243,245.58	1,620.00	616,053.24	372,807.66	1,620.00	739,368.34	836,776.51
North Dakota	2,844,328.22	1,268,183.37	1,243,245.58	1,620.00	616,053.24	372,807.66	1,620.00	172,195.69	172,195.69

Ohio	892, 851. 99	783, 076. 96	1, 620. 00	578, 996. 04	272, 249. 55	39, 986. 40	426, 199. 03	356, 877. 93
Oklahoma	791, 702. 59	577, 896. 75	1, 620. 00	468, 568. 12	237, 480. 88	32, 688. 61	51, 344. 98	427, 204. 31
Oregon	294, 440. 99	798, 393. 92	1, 619. 81	162, 916. 56	105, 044. 31	24, 860. 31	564, 545. 25	150, 692. 44
Pennsylvania	1, 531, 942. 18	890, 532. 29	731, 409. 89	1, 260. 00	595, 926. 62	154, 486. 49	48, 859. 18	233, 848. 67
Rhode Island	110, 925. 47	63, 230. 99	47, 694. 48	38, 290. 97	4, 417. 74	20, 522. 28	28, 824. 17	14, 400. 00
South Carolina	1, 327, 030. 60	733, 995. 61	593, 034. 99	1, 620. 00	461, 957. 51	233, 958. 28	32, 487. 60	54, 172. 49
South Dakota	586, 930. 83	358, 462. 16	228, 468. 67	1, 620. 00	172, 534. 28	100, 244. 71	24, 223. 30	89, 466. 20
Tennessee	1, 582, 322. 22	962, 999. 23	619, 322. 99	1, 620. 00	623, 494. 36	301, 434. 68	36, 450. 19	251, 842. 40
Texas	2, 990, 928. 19	1, 665, 705. 45	1, 325, 222. 74	1, 539. 00	1, 056, 695. 90	474, 716. 52	50, 515. 24	3, 900. 00
Utah	428, 574. 17	186, 938. 43	241, 635. 74	1, 155. 00	85, 130. 44	64, 913. 19	22, 132. 38	850, 821. 08
Vermont	322, 352. 39	152, 702. 96	169, 649. 43	830, 53	85, 171. 59	39, 191. 52	22, 055. 51	5, 453. 81
Virginia	1, 550, 220. 35	766, 574. 42	783, 645. 93	1, 620. 00	508, 488. 49	219, 750. 49	35, 095. 44	63, 415. 99
Washington	961, 145. 33	356, 178. 81	604, 966. 52	1, 603. 35	210, 598. 38	116, 885. 13	27, 091. 95	239, 099. 39
West Virginia	854, 319. 91	491, 143. 41	363, 176. 50	1, 620. 00	319, 283. 14	138, 798. 46	31, 441. 81	317, 610. 05
Wisconsin	1, 672, 081. 49	679, 272. 49	992, 809. 00	1, 620. 00	451, 633. 76	190, 480. 63	32, 703. 17	287, 356. 47
Wyoming	394, 585. 95	173, 247. 36	221, 338. 59	1, 260. 00	67, 441. 38	63, 605. 15	21, 368. 92	96, 559. 72
Alaska	49, 220. 28	23, 950. 00	25, 270. 28	13, 950. 00	13, 950. 00	10, 000. 00	25, 270. 28	5, 741. 62
Hawaii	452, 094. 89	159, 252. 80	292, 842. 09	88, 094. 83	33, 181. 55	21, 385. 77	16, 590. 65	601, 080. 00
Puerto Rico	732, 446. 95	378, 645. 28	353, 801. 67	1, 349. 97	377, 295. 31	-----	292, 842. 09	51, 000. 00
Total	60, 207, 189. 89	26, 967, 557. 20	33, 239, 632. 69	55, 432. 71	29, 892. 00	16, 953, 927. 52	7, 883, 788. 53	2, 146, 594. 40
1947	53, 722, 420. 26	26, 154, 356. 82	27, 568, 063. 44	51, 692. 17	28, 196. 00	16, 812, 763. 58	7, 217, 296. 13	13, 815, 549. 25
1946	44, 570, 306. 10	22, 576, 671. 18	21, 993, 634. 92	53, 341. 58	43, 403. 43	16, 756, 606. 54	3, 703, 848. 95	11, 857, 851. 23
1945	38, 171, 919, 651. 18	779, 197. 58	19, 392, 722. 07	49, 416. 00	20, 368. 44	16, 676, 879. 43	8, 965, 253. 00	9, 117, 304. 33
1944	36, 344, 028. 66	18, 782, 976. 75	17, 561, 051. 91	47, 709. 68	19, 661. 26	16, 678, 434. 72	8, 266, 940. 04	1, 310, 164. 74
1943	34, 988, 131. 46	18, 799, 715. 56	16, 188, 415. 90	53, 182. 08	24, 902. 31	16, 683, 768. 54	1, 485, 908. 29	1, 485, 908. 29
							7, 415, 254. 10	7, 769, 155. 79
							548, 208. 75	1, 004, 006. 01

¹ Farm Labor and Research and Marketing funds not included.

TABLE 4.—*Expenditures of funds¹ from all sources for cooperative extension work for fiscal year 1947-48 for States, Alaska, Hawaii, and Puerto Rico*

State	Administration	County agent work				Home demonstration work	
		Specialists		County		Leadership	
		Dollars	Percent	Dollars	Percent	Dollars	Percent
Connecticut	Printing and distribution of publications	15,316.88	3.4	126,412.94	28.2	106,449.26	23.7
Delaware		711.36	.6	44,833.08	37.0	23,077.74	19.1
Maine		5,302.19	1.4	86,703.04	23.3	97,813.90	26.2
Maryland		5,274.49	.7	322,827.37	45.1	170,549.10	23.8
Massachusetts		6,993.48	.9	211,589.04	29.5	183,498.09	25.5
New Hampshire		3,641.00	1.1	96,614.19	29.0	4,689.86	1.4
New Jersey		2,649.96	.4	147,822.20	21.4	14,318.64	2.1
New York		189,774.65	5.0	1,162,932.04	30.6	42,645.07	1.1
Pennsylvania		26,043.44	1.7	451,134.96	29.4	2,607.68	.2
Rhode Island		1,420.53	1.3	25,195.41	22.7	4,126.44	3.7
Vermont		11,398.61	3.5	71,133.41	22.1	10,019.20	3.1
West Virginia		13,308.95	1.5	141,849.99	16.6	25,372.91	3.0
Total.		506,173.10	5.1	281,835.54	2.9	2,889,047.67	28.6
Alabama		54,526.83	2.9	49,972.29	2.7	261,418.48	14.1
Arkansas		56,909.48	4.1	19,220.54	1.4	153,432.41	11.1
Florida		30,246.20	3.6	7,606.38	.9	108,249.63	12.9
Georgia		23,834.33	1.3	14,285.58	.7	267,259.61	14.0
Kentucky		39,918.91	2.3	34,009.58	2.0	214,535.18	12.5
Louisiana		21,559.24	1.4	8,703.41	.5	262,370.07	16.5
Mississippi		62,252.09	3.5	21,060.61	1.2	280,271.66	15.5
North Carolina		40,525.17	1.4	32,449.74	1.1	355,312.83	12.5
Oklahoma		26,447.49	1.9	36,902.62	2.7	250,119.33	18.6
South Carolina		67,985.15	5.1	25,922.16	2.0	284,105.36	21.4
Tennessee		40,878.07	2.6	23,427.42	1.5	279,860.12	17.7
Texas		82,746.84	2.8	56,734.17	1.9	314,344.28	10.5
Virginia		75,076.42	4.8	16,363.71	1.1	237,336.51	15.3
Total.		622,906.22	2.7	346,658.21	1.5	3,268,615.47	14.4
Illinois		68,053.68	3.1	31,258.12	1.4	325,470.69	14.6
Indiana		48,199.13	2.6	49,381.29	2.6	378,683.77	20.3
Iowa		116,985.09	5.1	89,528.90	3.9	430,576.17	18.8
Kansas		47,321.05	2.8	9,256.35	.6	302,501.09	17.9
Michigan		35,174.01	2.4	26,960.08	1.9	424,253.97	29.4
Minnesota		42,163.71	3.2	17,118.76	1.3	253,156.35	19.5
Missouri		24,656.53	1.4	19,365.14	1.1	213,946.81	12.6
Nebraska		22,531.70	2.3	19,310.64	2.0	169,837.59	17.4

North Dakota	15,202.36	2.5	5,468.58	.9	120,596.25	19.6	44,012.04	7.1	318,580.84	51.7	15,262.84	2.5
Ohio	41,605.24	2.5	28,763.91	1.7	348,288.82	20.8	43,513.63	2.5	845,073.53	50.4	28,444.53	1.7
South Dakota	15,529.48	2.6	7,609.95	1.3	112,227.72	19.2	19,362.15	3.3	289,423.99	49.3	16,045.21	2.8
Wisconsin	40,064.05	2.4	27,230.10	1.6	443,845.42	26.5	41,998.55	2.5	702,499.96	42.0	36,563.86	2.2
Total	517,486.03	2.9	331,251.82	1.8	3,523,384.65	19.6	452,925.38	2.5	7,954,505.01	44.1	329,009.52	1.8
Arizona	23,029.89	7.2	3,016.10	.9	80,182.12	24.9	5,476.85	1.7	141,004.47	43.8	9,059.29	2.8
California	17,382.19	.7			310,863.26	12.9	126,967.33	5.3	1,409,008.84	58.3	34,990.69	1.4
Colorado	12,903.14	1.9	10,337.97	1.5	135,686.43	20.4	41,240.51	6.2	284,586.21	42.7	9,220.05	1.4
Idaho	30,528.50	5.4	8,034.05	1.4	108,129.08	19.2	26,838.17	4.7	254,037.84	45.1	15,127.85	2.7
Montana	33,053.96	5.3	7,222.46	1.2	122,034.76	19.7	15,643.88	2.5	280,959.35	45.4	15,177.13	2.5
Nevada	15,813.66	7.7			19,819.37	9.6	11,880.92	5.8	61,429.18	29.8	9,748.72	4.7
New Mexico	21,289.84	4.4	3,195.43	.7	84,476.27	17.4	24,106.91	5.0	236,341.29	48.7	7,200.75	1.4
Oregon	56,878.63	5.2	15,611.75	1.4	225,733.30	20.7	44,540.13	4.1	360,261.99	33.0	17,798.89	1.6
Utah	37,436.88	8.7	2,654.71	.6	85,231.11	19.9	11,298.13	2.6	165,104.30	38.6	9,989.43	2.3
Washington	30,854.42	3.2	29,725.07	3.1	155,274.95	16.2	41,385.74	4.3	478,089.83	49.7	30,458.71	3.2
Wyoming	21,496.16	5.5	4,559.20	1.2	83,772.16	21.2	14,465.13	3.7	176,012.02	44.6	11,219.56	2.8
Total	300,667.27	3.7	84,357.45	1.0	1,411,202.81	17.3	363,843.70	4.5	3,846,835.32	47.2	169,991.07	2.1
Alaska	12,556.70	25.5	484.16	1.0								
Hawaii	32,529.46	7.2	2,312.26	.5	106,205.79	23.5	11,833.44	2.6	167,560.76	37.1	10,076.00	2.2
Puerto Rico	45,090.04	6.2	3,943.66	.5	186,862.75	25.5	69,622.73	9.5	214,660.99	29.3	54,186.43	7.4
Grand total	2,037,408.82	3.4	1,050,843.10	1.7	11,385,319.14	18.9	1,902,568.65	3.2	25,073,161.39	41.6	1,491,965.78	2.5

See footnotes at end of table.

TABLE 4.—*Expenditures of funds¹ from all sources for cooperative extension work for fiscal year 1947-48 for States, Alaska, Hawaii, and Puerto Rico—Continued*

State	Home demonstration work—Contd.	Boys' and girls' club work ²		Total in county	Miscellaneous	Total
		County	Leadership			
		<i>Dollars</i>	<i>Percent</i>	<i>Dollars</i>	<i>Percent</i>	<i>Dollars</i>
Connecticut	57,826.88	12.9	23,605.83	5.3	86,272.26	19.2
15,125.12	12.5	6,050.23	5.0	14,284.90	11.8	
84,094.20	22.5	10,778.97	2.9	43,138.40	11.6	
108,483.63	15.2	19,958.86	2.8	24,915.49	3.5	
108,748.82	15.2	33,603.91	4.7	127,703.01	17.8	
50,015.64	14.9	8,641.19	2.6	69,297.08	20.8	
130,339.97	18.9	16,366.93	2.3	104,757.67	15.2	
572,176.11	15.1	74,174.33	2.0	553,135.77	14.6	
294,326.29	19.2	49,880.50	3.3	637,812.43	41.6	
18,880.91	17.0	8,186.11	7.4	23,195.52	20.9	
55,404.17	17.2	7,782.13	2.4	60,643.12	18.8	
137,596.88	16.1	56,526.21	6.6	113,219.82	13.3	
1,633,018.62	16.3	315,555.20	3.2	1,220,563.04	12.2	
Total				4,330,661.83	43.2	5,686,006.24
						56.8
Alabama	500,218.08	27.0	25,451.73	1.4	512,357.06	27.6
Arkansas	463,386.99	33.6	15,378.77	1.1	355,455.41	25.7
Florida	244,070.26	29.2	21,833.68	2.6	231,972.73	27.7
Georgia	480,306.78	25.2	42,604.99	2.3	478,467.58	25.1
Kentucky	404,744.32	23.5	68,618.46	4.0	471,864.18	27.5
Louisiana	504,791.08	31.8	22,927.62	1.5	427,173.18	26.9
Mississippi	523,109.12	28.9	53,010.37	2.9	527,759.45	29.2
North Carolina	921,400.00	32.4	36,101.54	1.3	596,530.91	21.0
Oklahoma	432,005.61	31.6	29,592.68	1.8	430,276.96	31.4
South Carolina	331,157.93	25.0	18,275.13	1.4	493,982.41	37.2
Tennessee	453,683.77	28.7	37,423.38	2.4	497,662.97	31.5
Texas	831,866.86	27.8	18,087.92	1.6	765,765.97	25.6
Virginia	359,548.16	23.2	21,633.62	1.4	443,436.27	28.6
Total						
				6,232,705.08	27.4	16,501,928.15
						72.5
Illinois	631,421.15	28.3	76,506.02	3.4	1,271.29	1
Indiana	246,470.55	13.2	50,862.11	2.7	211,435.42	11.3
Iowa	346,400.38	15.1	42,954.03	1.8	189,275.47	8.3
Kansas	449,203.31	26.6	39,117.15	2.3	209,168.43	12.3
Michigan	162,227.73	11.2	60,180.47	4.2	171,025.00	11.9
Minnesota	181,731.44	14.0	54,223.69	4.2	142,635.44	11.0
Missouri	456,835.67	26.8	40,958.06	2.4	2,700.78	.2
Nebraska	197,302.53	20.3	31,121.05	3.2		
Total						

North Dakota	62,518.16	10.1	32,218.48	5.2	2,193.69	.4	232,760.55	37.8	383,292.69	62.2	-
Ohio	293,695.51	17.5	36,134.21	2.2	10,409.57	.7	526,750.34	31.4	1,149,178.61	68.6	-
South Dakota	86,642.20	14.7	40,090.13	6.8	-	-	210,864.64	36.0	376,066.19	64.0	-
Wisconsin	263,836.71	15.8	27,930.08	1.7	88,112.76	5.3	617,632.06	36.9	1,054,449.43	63.1	-
Total	3,378,285.34	18.7	532,295.48	2.9	1,028,227.85	5.7	5,686,352.88	31.5	12,361,018.20	68.5	234.68
Arizona	52,236.97	16.3	7,627.89	2.4	-	-	128,392.14	39.9	193,241.44	60.1	-
California	480,245.19	19.9	35,914.63	1.5	-	-	526,118.10	21.8	1,889,254.03	78.2	-
Colorado	101,652.71	15.3	16,757.07	2.5	53,783.69	8.1	226,145.17	33.9	440,022.61	66.1	-
Idaho	60,005.94	10.7	16,134.06	2.9	44,782.66	7.9	204,791.71	36.3	358,826.44	63.7	-
Montana	117,583.91	19.0	19,035.12	3.1	-	-	212,167.31	34.3	398,543.26	64.4	37,877.03
Nevada	36,718.70	17.8	8,544.89	4.1	42,224.20	20.5	65,808.27	31.9	140,372.08	68.1	-
New Mexico	95,445.26	19.7	13,117.37	2.7	-	-	153,386.57	31.6	331,786.55	68.4	-
Oregon	158,136.21	14.4	34,630.44	3.2	144,082.92	13.2	395,193.14	36.2	662,481.12	60.6	335,160.65
Utah	104,532.64	24.4	12,326.97	2.9	-	-	158,937.23	37.1	269,636.94	62.9	-
Washington	174,110.52	18.1	13,171.93	1.3	8,074.16	.9	300,870.82	31.3	660,274.51	68.7	-
Wyoming	58,457.39	14.8	24,604.33	6.2	-	-	160,116.54	40.6	234,469.41	59.4	-
Total	1,439,125.44	17.6	201,864.70	2.5	292,947.63	3.6	2,531,927.00	31.1	5,578,908.39	68.4	43,037.68
Alaska	17,227.61	35.0	2,005.72	4.1	-	-	26,457.13	53.8	22,763.15	46.2	-
Hawaii	109,327.26	24.2	12,249.92	2.7	-	-	175,206.87	38.7	276,888.02	61.3	-
Puerto Rico	143,349.22	19.6	14,731.13	2.0	-	-	374,436.74	51.1	358,010.21	48.9	-
Grand total	13,170,622.45	21.9	1,489,642.04	2.5	2,541,738.52	4.2	19,357,747.53	32.2	40,785,522.36	67.7	63,920.00
											.1
											60,207,189.89

¹ Does not include Research and Marketing Administration funds.² Does not include cost of extension workers who devoted part time to 4-H Club work. Estimated total expended for 4-H Club work, \$18,979,536.82.³ Retirement.

TABLE 5.—Unexpended balance of Federal Extension funds for fiscal year ended June 30, 1948

State	Bankhead-Jones	Bankhead- Flannagan	Capper-Ketcham	Total
Arizona	\$1,409.57			\$1,409.57
Arkansas	20,660.68			20,660.68
Connecticut	\$247.46			465.43
Florida	15,865.38	6,151.25		22,016.63
Georgia	8,755.37	45,286.25		54,041.62
Idaho		7,051.60		7,051.60
Illinois		7,969.78		7,969.78
Indiana		44,702.33		44,702.33
Iowa		33.29		33.29
Kansas	.02			.02
Maine		5,073.14		5,073.14
Maryland		375.60		425.95
Massachusetts		2,417.83		2,619.92
Minnesota		9,701.94		9,701.94
New York		\$12.73		4,047.33
North Carolina		1,381.89		11,797.27
Ohio		11,797.27		12,047.72
Pennsylvania		5,621.70		79,009.29
Rhode Island		79,009.29		79,009.29
South Dakota				2,221.22
Tennessee				15,786.97
Texas				24,148.33
Virginia				76,492.37
West Virginia				32,032.92
Wisconsin				621.98
Puerto Rico				34,882.86
				19.88
Total	39,035.01	438,761.47	483.56	478,280.04

COOPERATIVE EXTENSION WORK

TABLE 6.—*Sources of funds¹ allotted for cooperative extension work in States, Alaska, Hawaii, and Puerto Rico, for the fiscal year ending June 30, 1950*

State	Grand total	Funds from Federal sources						Funds from within the States Farmers' organizations, etc.			
		Total Federal funds	Total within the States	Smith-Lever	Bankhead-Jones, section 21, title II	Bankhead-Jones, section 23, title II	Capper-Ketchem	Additional cooperative	State and college	County	
Alabama	\$2,249,149.10	\$1,211,072.10	\$1,038,077.00	\$151,596.66	\$502,475.28	\$514,435.98	\$37,220.03	\$3,724.15	\$1,620.00		\$546,077.00
Arizona	372,364.07	186,080.07	186,284.00	33,296.96	61,113.21	68,836.68	22,833.22				154,944.94
Arkansas	1,680,961.48	1,006,678.48	674,756.48	118,683.61	419,860.17	426,348.18	33,217.36	6,949.16	1,620.00		466,804.00
California	3,147,549.49	710,322.92	2,437,226.57	153,609.36	260,837.46	256,791.30	37,464.80			1,576,729.57	
Colorado	836,669.96	354,124.96	482,545.00	48,141.19	110,836.10	141,853.37	24,638.47	27,395.83	1,260.00		226,263.00
Connecticut	510,244.02	173,685.02	336,559.00	49,469.04	57,650.95	40,145.07	24,799.96		1,620.00		246,463.00
Delaware	153,757.50	95,182.50	58,575.00	19,101.13	36,515.26	18,459.29	21,106.82			51,475.00	4,600.00
Florida	1,179,089.72	351,598.72	827,491.00	70,994.31	129,651.51	121,915.18	27,417.72			464,095.00	363,396.00
Georgia	2,138,961.46	1,259,476.60	879,484.86	156,817.49	511,293.31	523,838.15	37,854.95	26,432.70	1,620.00		409,805.00
Idaho	654,257.10	276,662.10	377,595.00	34,936.02	92,773.63	119,594.39	23,032.55	3,445.51	1,620.00		237,100.00
Illinois	2,555,257.00	958,277.00	1,596,980.00	159,515.89	371,653.23	374,947.87	38,183.11	10,736.90	1,620.00		604,980.00
Indiana	1,878,295.02	781,322.02	1,096,973.00	120,302.76	313,278.64	312,706.35	33,414.27		1,620.00		618,876.00
Iowa	2,470,086.13	888,966.13	1,581,120.00	114,139.96	354,375.33	356,525.41	32,664.80	28,020.63	1,620.00		707,000.00
Kansas	2,170,524.41	636,471.40	1,534,053.01	84,993.69	238,032.79	232,475.97	29,120.22	50,228.73	1,620.00		341,808.00
Kentucky	1,810,494.35	1,148,001.93	662,492.42	152,977.52	473,004.01	483,012.44	37,387.96		1,620.00		363,870.00
Louisiana	1,997,847.77	796,603.77	1,201,244.00	109,083.79	326,764.51	327,085.57	32,049.90		1,620.00		1,026,856.10
Maine	403,694.15	230,177.08	173,517.07	46,109.22	83,322.64	72,517.33	24,391.36	2,216.53	1,620.00		1,122,517.07
Maryland	849,614.46	293,452.46	556,162.00	63,063.69	108,235.27	94,080.25	26,453.25		1,620.00		427,480.00
Massachusetts	858,632.36	197,621.82	661,010.54	42,748.46	72,883.76	56,386.95	23,982.65		1,620.00		239,426.00
Michigan	2,037,908.58	844,317.58	1,193,591.00	129,007.00	322,829.40	333,552.22	35,688.96		1,620.00		840,936.00
Minnesota	1,579,210.20	844,756.20	734,454.00	110,427.47	348,555.43	350,319.99	32,213.31		1,620.00		286,354.00
Mississippi	2,175,274.17	1,234,711.01	940,563.16	135,402.66	524,051.38	537,441.35	35,250.62		1,620.00		438,500.00
Missouri	1,917,833.98	1,035,175.08	882,658.90	140,634.88	424,282.66	431,063.63	35,886.93	1,686.98			945.00
Montana	793,808.11	282,104.11	511,704.00	34,918.54	83,243.96	107,433.45	23,030.42	32,217.74	1,260.00		373,000.00
Nebraska	1,132,601.31	535,609.88	596,991.43	67,417.76	198,975.81	190,831.74	26,982.76	49,781.81	1,620.00		311,991.43
Nevada	236,022.59	115,307.43	120,715.16	14,795.47	25,698.11	41,075.58	20,583.19	11,955.08		74,172.66	46,542.50
New Hampshire	358,790.63	123,804.76	234,985.87	24,918.64	45,320.00	28,997.28	21,814.30	1,134.54	1,620.00		130,072.78
New Jersey	866,964.95	227,444.45	639,520.50	64,818.34	71,390.79	54,795.08	26,666.64	8,153.60	1,620.00		291,581.00
New Mexico	759,495.62	253,932.01	505,563.61	35,455.41	84,068.40	111,312.49	23,095.71				378,863.61
New York	3,635,946.56	781,250.66	2,854,695.90	175,677.81	279,783.26	40,148.61			1,620.00		1,249,786.90
											1,395,486.00
											209,423.00

See footnote at end of table.

TABLE 6.—*Sources of funds¹ allotted for cooperative extension work in States, Alaska, Hawaii, and Puerto Rico for the fiscal year ending June 30, 1950—Continued*

State	Grand total	Total Federal funds	Total within the States	Funds from Federal sources				Funds from within the States			
				Smith-Lever	Bankhead-Jones, section 21, title II	Bankhead-Jones, section 23, title II	Capper-Ketcham	Additional cooperative	Clarke-McNary	Norris-Doxey	State and college
North Carolina	\$3,684,880.82	\$1,492,035.82	\$2,192,845.00	\$196,032.50	\$616,134.72	\$635,624.59	\$42,624.01	\$1,620.00	\$1,335,445.00	\$857,400.00	
North Dakota	803,965.64	411,713.64	392,252.00	46,527.70	137,807.12	162,611.04	24,442.25	\$38,705.53	1,620.00	118,468.00	273,784.00
Ohio	1,864,827.83	1,044,012.78	820,815.05	174,344.00	411,078.06	416,984.32	39,986.40	51,344.98	1,620.00	404,817.00	411,123.05
Oklahoma	1,760,578.18	910,594.68	849,983.50	114,335.77	354,232.35	356,372.97	32,688.61	51,344.98	1,620.00	699,983.50	\$4,875.00
Oregon	1,460,096.50	326,505.50	1,133,591.00	49,965.31	112,951.25	137,108.63	24,860.31	1,620.00	1,620.00	848,629.00	150,000.00
Pennsylvania	1,991,462.79	996,798.57	994,664.22	247,302.93	348,623.69	350,392.77	48,859.18	1,620.00	1,620.00	735,439.97	284,962.00
Rhode Island	139,668.01	67,663.90	72,004.11	14,294.63	26,217.56	6,629.43	20,522.28	20,522.28	20,522.28	53,490.00	3,714.11
South Carolina	1,510,630.77	851,124.14	659,506.63	112,682.90	349,274.61	351,086.81	32,487.60	2,352.22	1,620.00	575,793.00	9,200.00
South Dakota	777,859.56	411,519.56	366,340.00	44,727.29	130,397.99	150,711.11	24,223.30	59,839.87	1,620.00	274,800.00	91,540.00
Tennessee	1,994,225.97	1,150,146.97	844,079.00	145,266.42	478,227.94	488,582.42	36,450.19	36,450.19	1,620.00	522,579.00	5,030.00
Texas	3,929,373.57	2,018,235.25	1,911,138.32	260,920.43	795,775.47	827,165.32	50,515.24	82,238.79	1,620.00	708,429.00	1,196,048.64
Utah	453,976.09	202,217.09	251,759.00	27,534.10	57,596.34	80,086.85	22,132.38	13,607.42	1,260.00	166,935.00	6,660.68
Vermont	344,658.55	166,785.55	177,868.00	26,902.05	58,269.54	52,804.64	22,055.51	5,453.81	1,300.00	108,000.00	69,868.00
Virginia	2,078,797.26	924,659.82	1,154,137.44	134,126.66	374,361.83	377,835.89	35,095.44	1,620.00	1,620.00	845,120.44	309,017.00
Washington	1,248,130.88	399,693.51	848,437.37	68,315.60	142,282.78	160,383.18	27,091.95	1,620.00	1,620.00	500,735.00	347,702.37
West Virginia	1,023,640.25	556,825.25	466,815.00	107,955.11	211,331.54	204,005.96	31,912.64	31,912.64	1,620.00	328,185.00	131,530.00
Wisconsin	1,789,177.83	826,981.00	962,196.83	114,455.52	337,178.24	338,189.14	32,703.17	1,214.93	1,620.00	334,857.11	627,339.72
Wyoming	480,532.00	182,561.82	297,970.18	21,256.35	46,185.03	72,919.61	21,368.92	19,571.91	1,260.00	200,296.18	97,674.00
Alaska	86,450.00	23,950.00	62,500.00	13,950.00	66,699.96	49,793.52	10,000.00	16,590.65	1,620.00	62,500.00	
Hawaii	504,792.55	175,864.77	328,927.78	21,394.87	408,000.00	408,000.00	22,150.00	22,150.00	1,620.00	328,927.78	
Puerto Rico	888,000.00	512,935.19	375,064.81	103,315.19					1,675.00	375,064.81	
Unallotted	22,825.00	22,825.00									
Total	72,249,851.30	31,509,840.06	40,740,011.24	4,718,660.06	12,250,000.00	1,490,000.00	555,000.00	56,560.00	31,620.00	22,975,616.85	15,522,668.57
										2,241,725.82	

¹ Research and Marketing funds not included.

TABLE 7.—Number of technical cooperative extension workers added by 48 States and Hawaii during fiscal years July 1, 1945, to June 30, 1949.¹
 (This represents the net additions during the first 4 years that Bankhead-Flannagan funds were available, according to the records of the Washington, D. C., office)

State	County agricultural agents		County home demonstration agents		Assistant county home demonstration agents (white)		County 4-H Club agents		Assistant county 4-H Club agents		Supervisors		Subject-matter specialists	Total added		
	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro				
EASTERN REGION																
Connecticut			3		7				1		3		2	16		
Delaware			1		1				1		3		3	6		
Maine	-1	4	9	-1	4	7					-4		-4	6		
Maryland			8	1	10						3		21	47		
Massachusetts			5		5	1			-1		-2		6	18		
New Hampshire			5	2	-1						-3		-5	1		
New Jersey			39	3	5	4					2		32	19		
New York			25	2	5	7			1	11	2		9	99		
Pennsylvania			1		1						1		1	46		
Rhode Island			-1	3	8						1		3	5		
Vermont			7	4	1						-1		-1	1		
West Virginia			2		10	4					1		-14	16		
Region total	2	4	101	14	5	39	29	4	13	8	1	59	279			
SOUTHERN REGION																
Alabama			-1	44	-10	14					-1	2	-8	40		
Arkansas	3	7	34		9	7					1	2	-3	60		
Florida	2	2	28	6	1	7					6	1	3	50		
Georgia	19	9	28	15	5	20					3	1	14	117		
Kentucky	7		24	25	3	-4					3	1	12	71		
Louisiana			5	32	1	11					1	1	-1	66		
Mississippi			-1	8	11	4					4	3	7	77		
North Carolina			-1	10	78	4					4	3	12	177		
Oklahoma	2	3	32	42	4	25					5	2	9	81		
South Carolina			14	34	2	13					2	1	7	95		
Tennessee	12	3	34	10	4	20					5		16	86		
Texas	2	1	15	-8	3	28					5		14	115		
Virginia				9	17	11							16	71		
Region total	46	62	462	68	105	220					31	14	98	1,106		

See footnotes at end of table.

TABLE 7.—Number of technical cooperative extension workers added by 48 States and Hawaii during fiscal years July 1, 1945, to June 30, 1949.¹
(This represents the net additions during the first 4 years that Bankhead-Flannagan funds were available, according to the records of the Washington, D. C., office)—Continued

State	County agricultural agents		County home demonstration agents		County 4-H Club agents		Assistant county 4-H Club agents		Supervisors		Subject-matter specialists	Total added
	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro		
NORTH CENTRAL REGION												
Illinois			2	18	46		3		3		11	101
Indiana	3		28	16	2	35			—3		9	86
Iowa	11		7	4	2	66			7		—9	101
Kansas	3		19	29	20	17			3		—1	99
Michigan			15	22	2	22			1		15	86
Minnesota	1		8	18	8	26			3		1	69
Missouri	10		67	13	3		1		6		10	113
Nebraska	8		13	11					3		—2	33
North Dakota	7		7	6	2				2			24
Ohio	5		43	15	—1	—2			5		—4	61
South Dakota	14		2	9	—2				7		4	33
Wisconsin	6		26	15	5	35			2		9	102
Region total	68		237	176	3	81	243	1	14	42	43	908
WESTERN REGION												
Arizona	1		2		2						—1	6
California	5		88	7	27						11	141
Colorado	6		5	7	2	17					4	43
Idaho	10		2	13	13						6	43
Montana			10	6	2						10	44
Nevada	—1		5	2							1	8
New Mexico	3		20	7	7						1	42
Oregon	2		17	11	1	8					12	57
Utah	3		2	13	4						1	19
Washington	4		21	11	5	—1					2	48
Wyoming	2		9	9							9	29
Hawaii	1		11	—2							4	23
Region total	46		193	84							37	60
Grand total	162	66	993	342	113	390	305	5	27	118	15	260

¹ Alaska and Puerto Rico were not included, as they were not included in the Bankhead-Flannagan Act.

² Includes part-time agents.

